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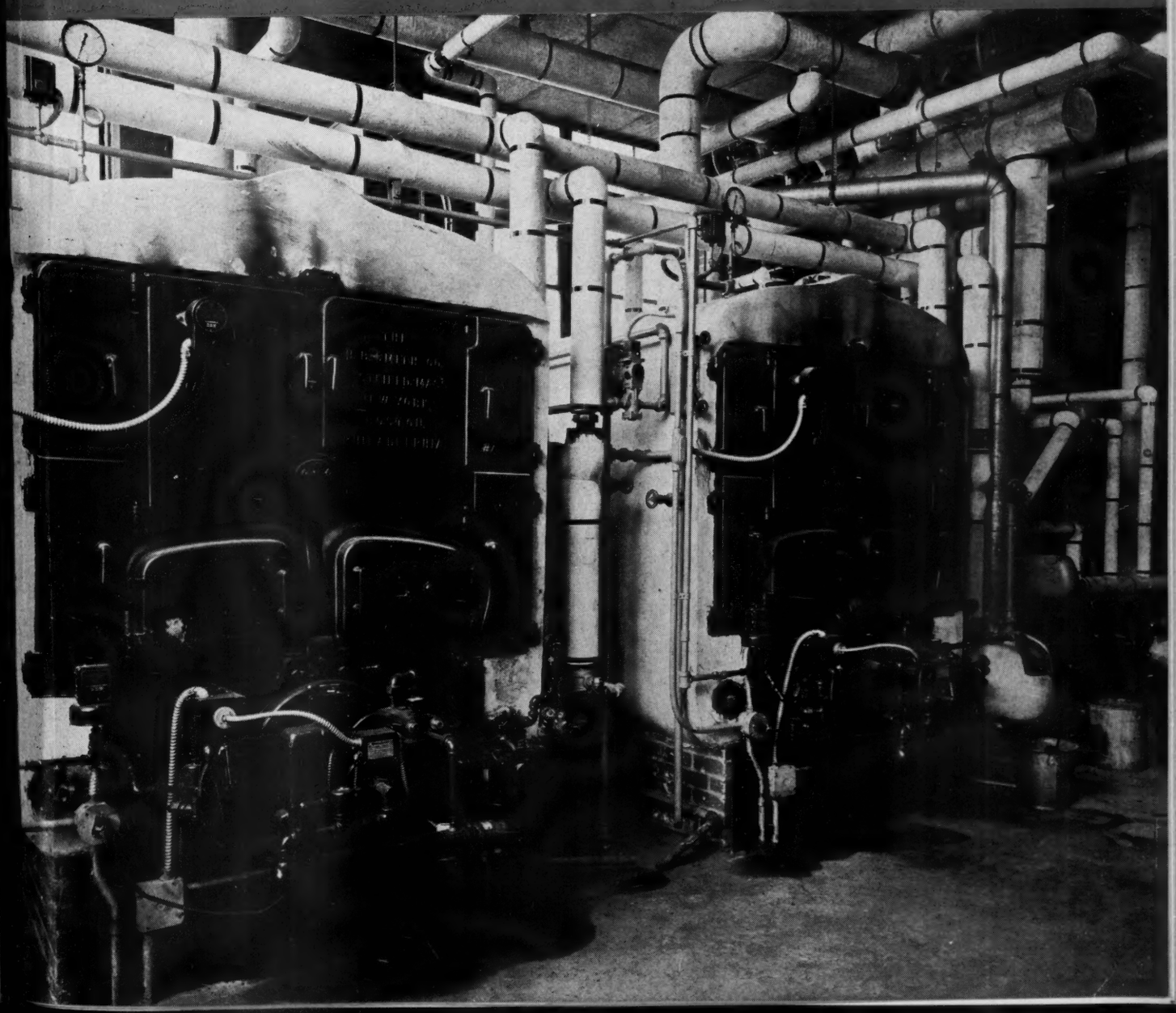
fueloil & oil heat



With Brodie Quantrol Meters...

WITH THE TREND strongly toward oil heat for farm homes, poultry houses, brooders, farrowing pens, dairy barns, etc., there is a fast growing demand for *Metered Oil* Deliveries on rural routes. The same tank trucks that deliver tractor fuel in spring and summer can be employed to deliver heating oil to farm customers throughout the winter. Equipped with Brodie Quantrol Meters, such a delivery system functions with the utmost speed and efficiency. Through the use of Brodie Meters, one operator and one truck can handle many times the gallonage of unmetered trucks in less time, and with much less physical effort. Too, there is less chance for errors, spillage and loss of product, as the Brodie Quantrol Meter automatically controls the delivery of the exact number of predetermined gallons. For full details on Brodie Quantrol Meters, write today.

BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

SINCE 1927

RALPH N. BRODIE CO., Inc., 953 61st St., Oakland 8, Calif. • *Division Offices:* CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO 5 • 302 SOUTH PEARL ST., DALLAS 1, TEXAS • 221 - 9TH AVE. NORTH, SEATTLE 9, WASH. • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA.

REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

VOL. 5 NO. 8

fueloil & oil heat

DECEMBER 1946

Names in the News

Donald C. McNall is managing the Dallas, Texas office opened on November 1, by Rochester Mfg. Co., Rochester, N Y. The office, opened to provide better service for dealers in the Texas area, eventually will handle all of the company's products, including liquid level, pressure and temperature gauges. Mr. McNall was a sales engineer in the LP Gas Gage Div. at Rochester and before that was engaged in the distribution of liquefied petroleum gas for Protane Corp. Complete stocks will be built up as soon as storage space becomes available.

Wendell M. Dillon is now associated with Watts Regulator Co., Lawrence, Mass., as director of engineering. Mr. Dillon formerly was with the company for a number of years, but left in 1941 to do private engineering work. His work will consist of new development and engineering research.

Clifford A. Sharpe has been elected vice president in charge of manufacturing, Gar Wood Industries, Inc., Detroit, Mich., it is announced by John J. Bergen, chairman of the Board. Mr. Sharpe, who became works manager of the company in May, has long been associated with Charles W. Perelle, president of Gar Wood, and will supervise manufacturing operations in Gar Wood's plants in Detroit, Wayne and Marysville, Mich.; Matoon, Ill.; Findlay, Ohio; Newport News, Va.; and St. Paul, Minn.

O. W. Bynum has been promoted to manager of direct sales; *John A. Gazelle* to manager of distributor-dealer sales and *Carl U. Spriggs* to assistant general sales

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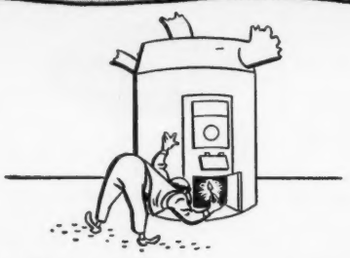
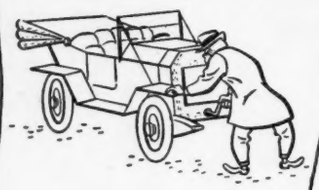


A Vaporizing Oil Furnace Without Electric Ignition Is Like an Automobile Without a Self Starter



An Annoying Problem

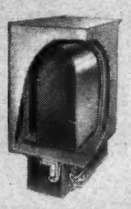
A vaporizing oil burner, furnace or circulating heater without electric ignition must be lighted by hand every time the user wants heat, or else a pilot light (low fire stage) must be maintained in the burner. Both alternatives are unsatisfactory. One is inconvenient, the other wastes fuel and is subject to failure.

This form of heating is like having an automobile that you must crank each time you want to use it, or else leave the motor running anywhere from a few minutes up to several hours, during periods of non-use.

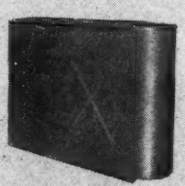
EXCLUSIVE, PATENTED

H.C.Little

ELECTRIC IGNITION MAKES THESE UNITS OUTSTANDING



Oil Burning Floor Furnace—The "Daddy" of Them All!



Basement Type Winter Air Conditioner

The Perfect Solution

In direct contrast is exclusive, patented H. C. Little ELECTRIC IGNITION, which is completely "self starting." When the thermostat calls for heat, the H. C. Little vaporizing burner operates at high efficiency—otherwise it is entirely shut off. There is no pilot light or "low fire" stage to waste fuel, cause soot or smoke, or fail entirely. ELECTRIC IGNITION is the BIG SALES FEATURE that ONLY H. C. Little has successfully applied in the low-cost vaporizing furnace-burner field.

And What a Sales Story!

This exclusive H. C. Little feature is one very important reason why so many H. C. Little dealers have reported such phenomenal sales results, over a period of many years.

Conversion Oil Burner—No Other Has Electric Ignition & No Moving Parts

H.C.Little BURNER CO.

Factory Representatives in Principal Cities

SAN RAFAEL CALIFORNIA

Utility Room (Or Closet) Winter Air Conditioner

manager, Carrier Corp., Syracuse, N. Y., according to Arthur P. Shanklin, vice president and general sales manager. All promotions were effective November 1 and all three will make their headquarters in Syracuse.

Frank E. Spencer, president, Burning Oil Distributors, Chicago 4, Ill., recently

Frank E. Spencer *(center) shown receiving certificate.*

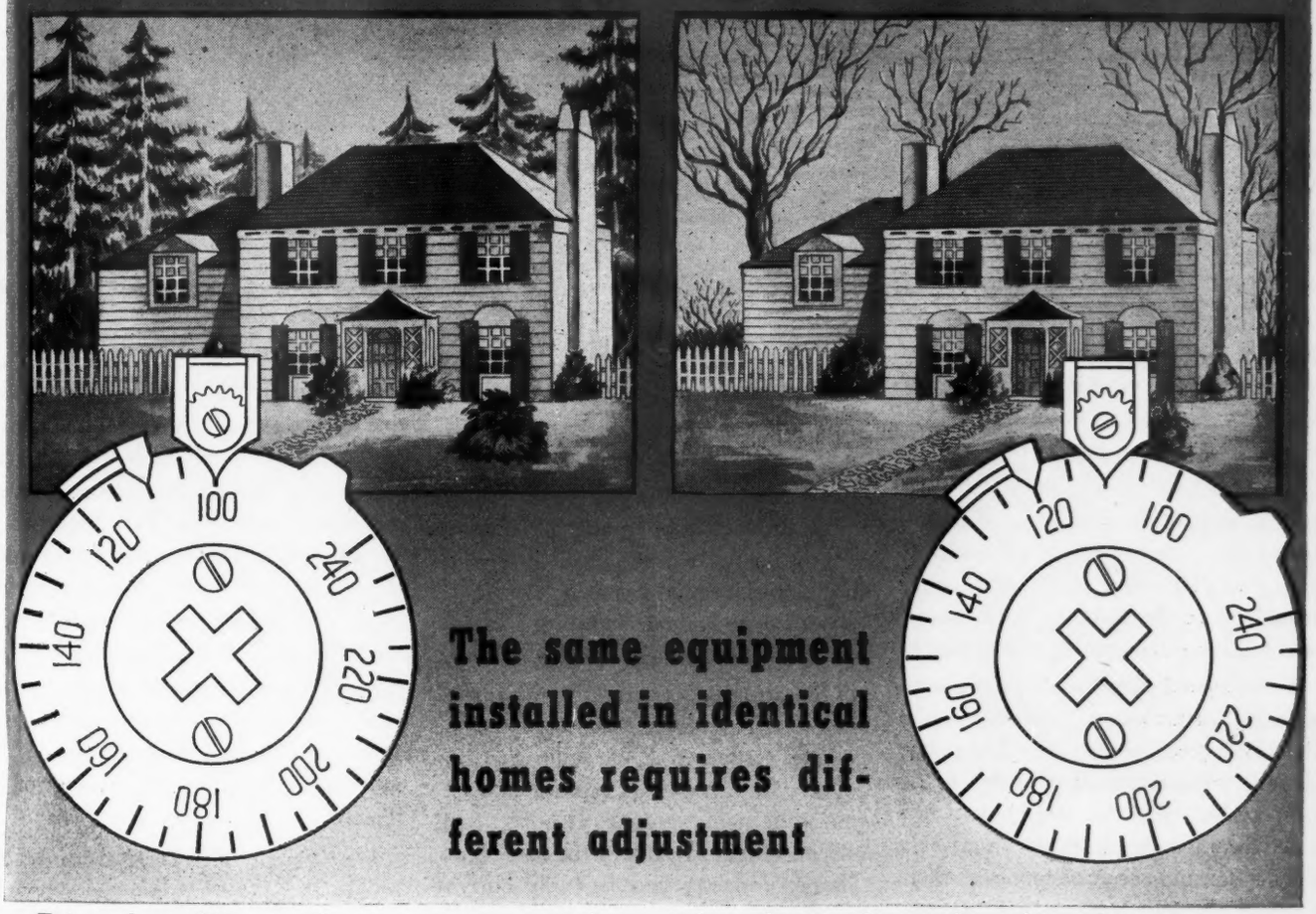
was presented a certificate by Clark Ferguson, regional director of American Airlines Passenger Sales, on the occasion of Mr. Spencer becoming an Admiral of the Fleet, in recognition of his services in promoting air travel.

W. W. Watson, Detroit, Mich., has been appointed representative for H. B. Smith boilers in eastern Michigan and northwestern Ohio.

Robert F. Doepel, general manager, Braun Bros., Winnetka, Ill., was awarded the Army Commendation Ribbon in September, 1946, by Major General T. B. Larkin, The Quartermaster General. The citation commended Mr. Doepel, then a Lieutenant Colonel in the Quartermaster Corps, for outstanding contribution and exceptional service in making possible the accomplishment of the Corps' mission.

E. A. Bertram recently was appointed manager of the industrial division, National Radiator Co., Johnston, Pa., according to Robert S. Waters, president. Mr. Bertram formerly managed the company's New York industrial sales division, and prior to his affiliation with National Radiator, was chief engineer of the Heat Exchange Div., Lummus Co., New York City and general manager of Heat Transfer Products Co., also of New York City.

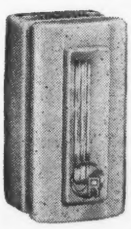
How W-R Controls Can Make YOUR EQUIPMENT WORK BETTER



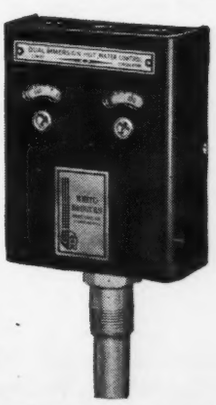
The same equipment installed in identical homes requires different adjustment

External conditions such as exposure, prevailing winds and even the number of people in the house call for different requirements from a heating plant.

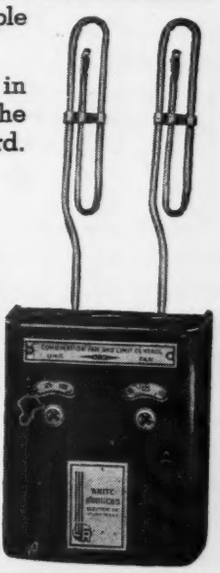
As the dials of White-Rodgers automatic temperature controls are marked accurately in degrees Fahrenheit and the controls perform exactly as set anywhere within the range of the control, more and more manufacturers of heating equipment are adopting them as standard.



Series 120 Room Thermostat is modern in design, finished in ivory and chrome to harmonize with any scheme of room decoration. Efficient and reliable.



Series 1100 combination Limit and Circulator Control for forced flow systems. Provides accurate circulator and positive limit control. Two independently operating controls in a single case.



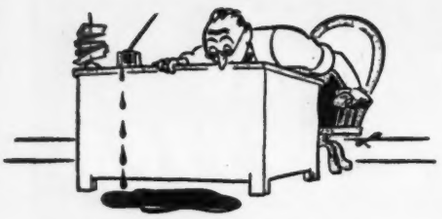
Series 500 Combination Fan and Limit Control for use on forced warmed-air heating systems. Provides accurate fan control and positive limit protection. Two independently operating controls in a single case.

WHITE-RODGERS ELECTRIC CO.

ST. LOUIS 6, MISSOURI

Controls for Refrigeration • Heating • Air Conditioning

fuel oil & oil heat



Editorial Leaks

Half-cent price increases in all fueloils were announced November 21 by Standard of Indiana, applying to 11 Midwest states. The announcement stated that this was done because of the recent rise in crude prices.

Oilheating men in the Chicago area are glad that this had happened, to bring to a close one of the most interesting, if not amusing, situations encountered by Michigan Avenue in some years.

Several weeks ago the principal independent fueloil distributors in Chicago raised their selling prices on all grades of heating oil a half cent, principally to give themselves wider margins. The majors were concerned, to understate the case.

If they moved immediately after the independent distributors' rise the action might look queer to their legal and public relations departments. It wouldn't sound quite kosher that the small companies forced them to raise prices. So, after weeks of confusion and not a little consternation, in which the independents lost no business to the cheaper majors, equanimity is reestablished. The distressing thought in it all is that maybe price is not as sacred as we've been told.

◈

Recent publicity has been given to a settlement Sinclair has reached with employees to avoid labor strife. The plan is so simple and easy to operate that it seems incredible that it is not in wide use today. There are, of course, elements that are not interested in avoiding labor trouble, and to these elements any plan that keeps people at work and avoids strife is not desirable.

In essence Sinclair has agreed with its employees on an index of living cost, and each quarter the matter of compensation is opened for revision upward or downward as the index moves. There is no need for either party to the agreement to threaten a strike or lockout to settle pay questions. The adjustment will be made automatically at the end of the agreed period.

It can be argued that such a settlement is not tied to productivity of the worker, or to the ability of the company to stand an increase in rates. However, productivity of workers is more likely to be high when they are assured that they will be properly treated than when there is some doubt. In general, too, it can be assumed that the company will be well able to handle pay rises in periods of increasing prices.

◈

Whether or not John L. Lewis goes to jail makes little difference to the oilheating industry, but a reasonably quick settlement of the bituminous coal strike is essential if the industry is to work its way out of the economic woods where it now is lost. Production of equipment is sure to suffer if the strike is prolonged. Steel mills started to close almost as soon as the strike was called, and any delay in soft coal production will completely close the industry.

Oilheating is not seriously in competition with bituminous coal for the home heating market in most sections of the country. It is, however, in direct competition with manufactured gas in the East, and mixed gas in parts of the Mid-West. The gas industry may be badly hurt by any long shut-down of the coal mines. Gas demand had climbed so high in most territories that the utilities were refusing additional load, even before there was any threat of a coal strike. Shutting off the raw material for the manufacture of gas will further aggravate an already critical situation.

It makes little difference how great the demand for oil heat may be if there are no burners being made, and no tanks, pipe, tubing and other installation materials to use with them.

◈

It is interesting to see the furious activity of the gas-in-the-pipelines men as soon as a critical fuel shortage threatened the East. The shortage threatened by the soft coal strike hit every area east of the Rocky Mountains, but one active segment of the population saw in the strike an opportunity to promote its pet interest, and the publicity that followed convinced many that gas in the "Inch" lines would solve the problem, if not break the strike.

The amount of natural gas that could be put through the lines within a month would represent an infinitesimally small part of the fuel needed to replace the unmined coal. Due to lack of distributing lines, this gas would have to be used in the New York and Philadelphia areas. Since these areas have been served totally by manufactured gas, all gasburning equipment would have to be adjusted for a mixed gas, or replaced for straight natural gas. Such an enormous task would take the rest of the winter if the men and materials were available.

The mad scramble to get gas in the pipelines obviously is more opportunistic than utilitarian. It can not help to ease the coal shortage materially, but the shortage serves as a perfect background for gas publicity. Without such an "emergency" the opposition of the armed forces might defeat the gas-in-the-pipelines people. The services want the lines kept ready to carry oil. With the aid of such an "emergency" it may be possible to put them in gas service. Besides, such a move would spite John Lewis and the miners' union, which has been fighting to keep gas out of the lines.

Undoubtedly there are many sincere people, though uninformed, who now are anxious to have gas in the pipelines. A little more logic, and a little less emotion, would show them how futile is the present furore.

◈

Last month we announced the close of the first postwar service school to be held by Harvey-Whipple, and the opening of a new fueloil laboratory by the Gulf Oil Corporation. Both items appeared on the same page (page 87), and we were happy about both events until the issue arrived.

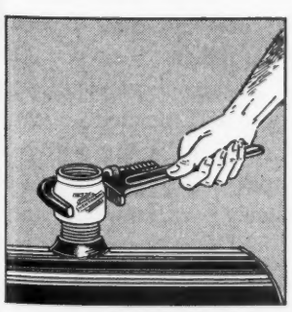
The vast Gulf laboratory with its banks of test boilers and white insulated pipes was pictured in the Harvey-Whipple item. It would be hard to imagine such a layout being used as an oilburner service school, but this explanation is made only because the question has been asked.

Gremlins that were thrown out of work at the end of the war apparently have found employment in printing plants.

COMPETITION CALLS FOR

Model "LA" VENTALARM shown. Available for purchase at most supply houses.

The LC model VENTALARM is easily installed on old tanks. A patented quick compression fitting with bayonette lock eliminates any pipe threading. Takes only 15 to 20 minutes.



The LA model VENTALARM is installed on tank when new burner is being put in. Threaded top receives threaded vent pipe in usual manner. No extra time required.

The oil man need never enter the home. Saves 15% to 30% on fuel delivery costs.

Your competition may be other fuel oil companies or oil burner dealers who offer VENTALARM as standard customer tank equipment. Your competition may be a salesman of gas heat. In any case, you can be sure that all three are telling their prospective customers that they offer *completely* automatic heat with no need for their customer to worry about fuel supply, spillage, muss or bother.

Nearly a million oil-heated homes now enjoy VENTALARM. Householders definitely *like* VENTALARM controlled oil delivery.

Are you using VENTALARM? Are you keeping abreast of your competition?

VENTALARM is also made for automotive gasoline tanks. Ask for VENTALARM on your new car.

SCULLY

VENTALARM

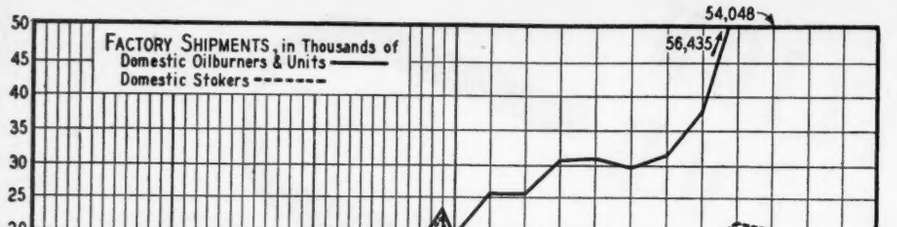
T.M. REG. U.S. PAT. OFF.

The Whistling TANK FILL SIGNAL

SCULLY SIGNAL COMPANY

88 FIRST STREET · CAMBRIDGE 41, MASS.

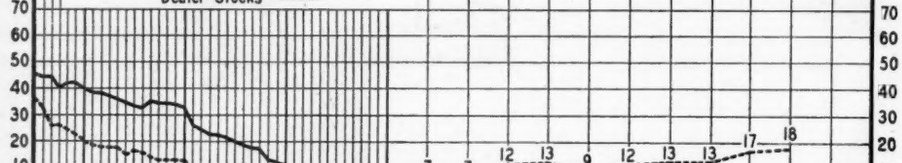
Manufactured in Canada by EMPIRE BRASS MFG. CO., LIMITED, London, Ontario



Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 124 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	SEPTEMBER			NINE MONTHS		
	1946	*1945*	*Percent Change*	*1946*	*1945*	*Percent Change*
Conversion	47,261	12,543	+276.8	288,392	63,079	+357.2
Boiler units	2,974	286	+904.4	15,776	5,639	+179.8
Furnace units	3,813	2,098	+ 81.7	18,479	8,430	+119.2
All domestic	54,048	14,927	+262.1	322,647	77,148	+318.2
Commercial	3,642	2,446	+ 48.9	27,591	26,934	+ 2.4
Total	57,690	17,373	+232.1	350,238	104,082	+236.5


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
7 7 12 13 9 12 13 13 17 18
5 5 4 4 5 4 6 4 4
JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945
1946

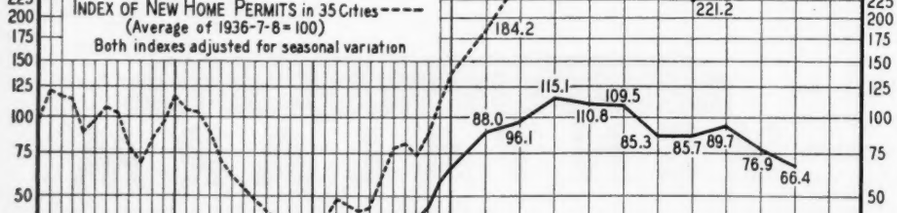
October Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$525	...	$1050	...	$650	...
Lowest	275	...	550	...	444	...
Oct. Aver.	332	...	676	...	555	...
Sept. Aver.	317	...	640	...	574	...

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more, for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
Oct.	137.7	Six months ago	123.3	Oct.	145.4	Six months ago	126.1
Sept.	140.0	Year ago	116.0	Sept.	142.2	Year ago	117.2


INDEX OF BURNER PERMITS in 43 Cities
(Average of 1936-7-8 = 100)
INDEX OF NEW HOME PERMITS in 35 Cities
(Average of 1936-7-8 = 100)
Both indexes adjusted for seasonal variation
261.6 332.3 394.0 370.9 316.8 257.7 266.9 251.0 221.2
184.2
88.0 96.1 115.1 110.8 109.5 85.3 85.7 89.7 76.9 66.4
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1943
1944
1945
1946

Oilheating Trends

INSTALLATIONS OF DOMESTIC oilburners and and units in October are estimated at 64,480, an all-time peak month for the industry. Total installations in the ten-month period were 352,331, also substantially above any previous ten-month period in the industry's history. Oilburner sales, however, as reflected in new orders booked during October were far behind installations. The indicated sales for the month are 38,690, importantly below installations and also below September and August orders. Total orders taken in ten months were 350,378, or virtually the same as installations. Obviously it is about time for dealers to start sales effort in earnest. October sales were divided: 83% conversion burners, 13% boiler-burner units and 4% furnace-burner units.

BURNER STOCKS: Domestic oilburners and units in dealer hands on October 31 are estimated at 18,314, which represents a new high point since prewar years but is still only about half of the number that dealers stocked in 1941. Factory stocks on September 30, the latest available data, were 3,852.

SERVICE INCOME: October service department income of reporting dealers averaged $2,908, which was 6.4% below the average of $3,107, reported by the identical group for the same month last year. September service department income was $3,557 and August, $2,242.

INCOMPLETE INSTALLATIONS: There has been a great deal of conversation in the industry about installations that were started but could not be completed due to lack of various materials or parts. Considerable ingenuity has been exercised to protect the good name of oilheating by seeing to it that makeshift steps were taken to keep most of the customers warm even though the jobs were incomplete. At the end of October an estimated 16,391 domestic oilheating installations were partly made but work had stopped because of shortage of some part. However, only 2,095 of these jobs were not in shape to operate and keep the buyer's family warm. In spite of all the complaints of tank shortages only an estimated 331 jobs on that date were completed but for tanks. Holding up the other jobs were piping, motors, transformers and circulators in the order mentioned. Considering the

many difficulties of the past few months and the fact that total installations are running well above any previous period, the actual hardship caused by incomplete installations is surprisingly small.

DEALERS SUPPLY PARTS: The supplying of burner parts by dealers to burner manufacturers has been a curious outgrowth of the early postwar situation and the inequities of price control. The whole subject is academic today, price control having been abolished, but since questions on this subject were asked of the dealers as of November 1, it is interesting to see how far this unorthodox practice had progressed. Based on October business 55% of the reporting dealers supplied some parts of burners to their manufacturers so that they could complete the product for shipment. All told, 41% of the burners received by dealers during October included one or more parts that the dealers had supplied to the factories. For the benefit of the occasional person who does not know what this is all about, some of the smaller manufacturers of motors, transformers and other oilburner parts shipped a fair share of their factory production direct to oilburner dealers because under OPA ceilings they could legally get more for these parts than they could by shipping them to the burner manufacturers. Everyone was in the clear by this method but the assembled cost of the burner to the dealer was naturally higher than it would have been if he had been able to get the complete burner from the burner factory. Fortunately such screwball tactics are now a thing of the past.

IMMEDIATE BURNER DELIVERY: In a number of cities dealers have been advertising burners for immediate installation and some other dealers have felt that this was a come-on game. However, the study this month shows that some dealers of excellent standing do have burners for immediate delivery and in another section of this issue is reported a situation on Long Island where six reputable dealers were advertising burners for immediate installation in their local newspaper. Of all dealers reporting this month, one in five has burners in stock for immediate installation as orders are received. Considerably more, 58%, say that some other dealers in their markets do have burners for immediate installation. As to the price of these jobs that can be put in immediately, and of course these questions and answers came before price control was removed, just about one-fifth of these jobs were going in at legal prices and four-fifths at illegal prices, in the opinion of those reporting.

OIL IN STORAGE: Oil prices have weakened in some Eastern markets during the past month largely because storage was piling up. The price experts of the industry like to blame this on the very mild Fall season, but actually this deficiency in degree days has not affected the season's consumption as much as 5%. The real reason for distillate stocks piling up is that consumption in the first half of this year was badly overestimated by government agencies and the economists in the big companies, which resulted in the refineries running too high yields of heating oil. Of the fueloil distributors reporting this month, one in six says that the price has

(*Continued on page 124*)

Oilburner* and Building Permits

	OILBURNERS				DWELLINGS			
	October		10 MONTHS		*October*		10 MONTHS	
	1946	*1945*	*1946*	*1945*	*1946*	*1945*	*1946*	*1945*
Baltimore, Maryland	..	..	..	..	308	216	..	331
Binghamton, New York	..	..	..	..	14	6	112	36
Boston, Massachusetts	588	..	..	..	..	6	..	23
Bridgeport, Conn.	148	86	674	269	..	..	..	..
Buffalo, New York	..	..	..	..	21	8	..	52
Des Moines, Iowa	..	..	..	..	..	41	..	96
Detroit, Michigan	339	67	..	..	512	374	7367	2419
Elizabeth, N. J.	83	23	656	97	1	12	17	..
Freeport, New York	68	34	394	118	..	..	..	..
Greenwich, Conn.	..	..	..	..	11	10	172	25
Hackensack, N. J.	..	..	..	..	0	0	..	62
Hartford, Conn.	101	181	..	458	..	..	..	..
Irvington, N. J.	48	27	472	83	1	1	16	3
Lynn, Massachusetts	..	..	..	..	4	4	47	7
Meriden, Conn.	27	6	..	..	..	..	..	..
Milwaukee, Wisc.	177	65	900	155	114	137	1372	..
Minneapolis, Minn.	101	72	572	615	106	112	1307	603
Montclair, N. J.	50	28	389	74	..	..	..	..
Morristown, N. J.	..	..	..	..	1	0	..	1
Mt. Vernon, New York	87	76	515	194	..	..	..	..
Newark, New Jersey	..	255	..	..	..	..	..	..
New Bedford, Mass.	67	55	438	271	..	..	..	..
New Haven, Conn.	92	88	397	166	..	..	..	..
New Orleans, La.	0	0	0	0	..	..	..	..
New Rochelle, N. Y.	98	59	363	147	12	6	106	11
New York City (total)	..	2808	..	20736	..	..	..	..
Brooklyn-Queens	..	2460	..	19429	..	..	..	..
Manhattan, Bronx, Rchd	487	348	5610	1307	..	..	..	..
Norfolk, Virginia	42	52	..	..	25	4	216	56
Oakland, Calif.	0	0	4	2	..	..	..	..
Omaha, Nebraska	126	53	800	158	59	36	696	256
Orange, New Jersey	36	38	..	71	0	0	4	1
Passaic, New Jersey	..	25	..	..	..	..	..	..
Paterson, N. J.	89	81	836	197	13	0	64	2
Philadelphia, Pa.	1182	..	6062	..	..	..	..	..
Plainfield, N. J.	..	..	..	..	7	2	87	17
Portland, Maine	80	65	413	198	8	1	95	5
Portland, Oregon	234	314	2469	1140	98	65	1782	457
Poughkeepsie, N. Y.	40	..	..	..	..	..	..	..
Providence, R. I.	101	43	830	90	8	6	124	19
Reading, Penna.	..	..	..	..	0	11	88	22
Richmond, Virginia	0	15	289	28	158	102	..	556
Rochester, N. Y.	86	..	..	20	..	..	..	..
Rockville Center, N. Y.	35	25	238	71	2	4	70	4
Salem, Massachusetts	55	20	186	49	5	2	15	4
St. Louis, Missouri	160	32	713	128	21	18	279	31
St. Paul, Minnesota	186	69	1189	237	56	62	1040	444
Schenectady, N. Y.	4	150	204	..	..	..	..	..
Seattle, Washington	..	..	..	..	143	65	2288	1191
Springfield, Mass.	..	..	..	..	57	3	512	176
Stamford, Conn.	70	38	300	..	..	..	..	..
Syracuse, New York	58	33	265	..	24	6	174	92
Trenton, New Jersey	..	..	..	..	..	1	13	5
Utica, New York	..	..	..	..	3	1	..	7
Washington, D. C.	273	136	2111	343	..	..	..	..
West Orange, N. J.	..	..	..	..	..	5	84	13
White Plains, N. Y.	41	41	262	148	4	3	28	6
Wilmington, Delaware	0	45	493	104	11	10	192	10
Worcester, Mass.	121	93	653	271	..	..	..	..
Yonkers, New York	97	62	..	..	..	..	..	..
Totals	3781	2272	22866	5353	1807	1287	16978	5915
Percent Change	+66.4		+327.2		+40.4		+187.0	

* Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

Season's Greetings

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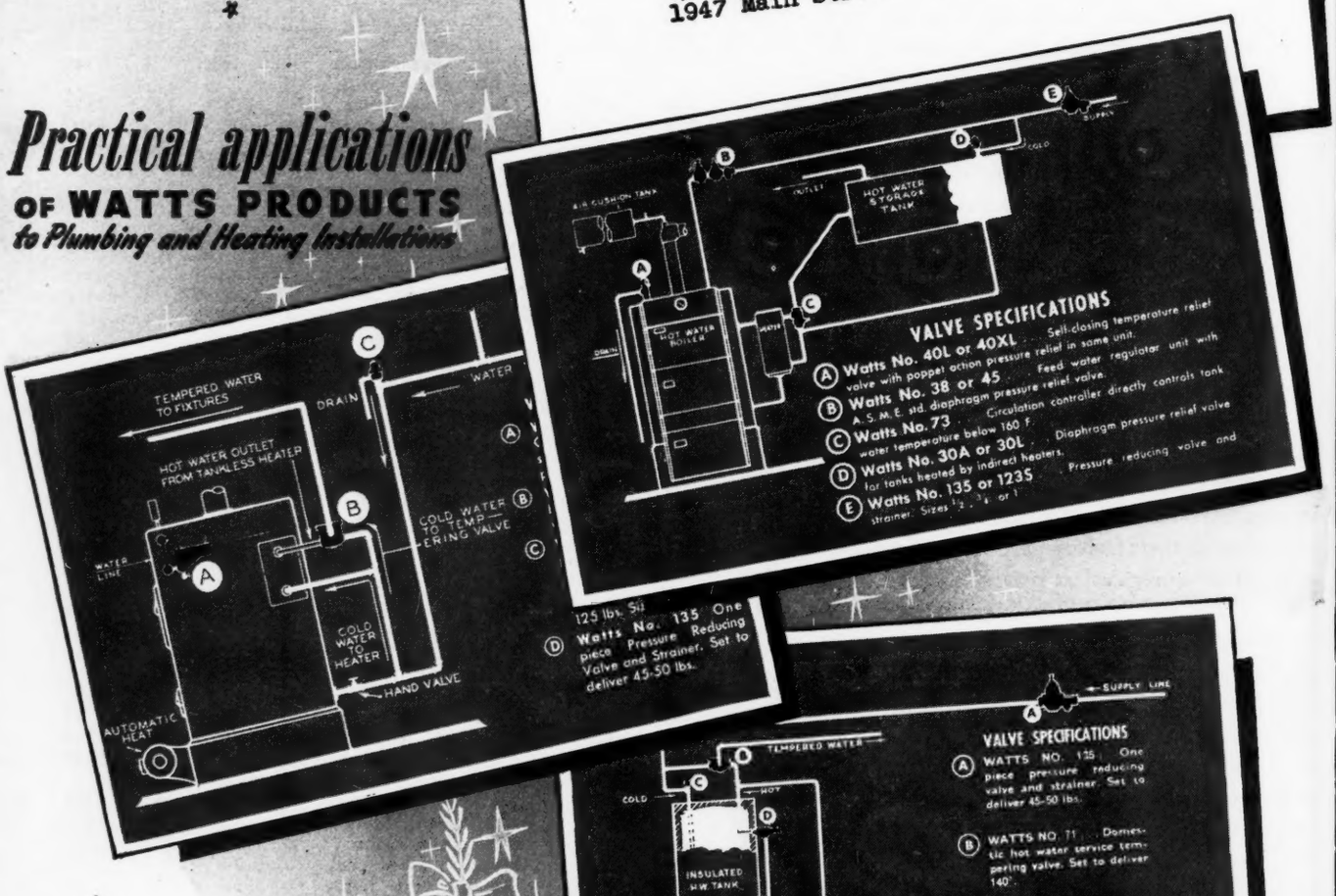
TEMPERED WATER TO FIXTURES
DRAIN
WATER
HOT WATER OUTLET FROM TANKLESS HEATER
COLD WATER TO TEMPERING VALVE
WATER LINE
COLD WATER TO HEATER
HAND VALVE
AUTOMATIC HEAT
A
B
C
D
125 lbs. Sil
Watts No. 135 One piece Pressure Reducing Valve and Strainer. Set to deliver 45-50 lbs.
AIR CUSHION TANK
OUTLET
HOT WATER STORAGE TANK
HOT WATER BOILER
DRAIN
COLD
SUPPLY
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VALVE SPECIFICATIONS
A Watts No. 40L or 40XL . . Self-closing temperature relief valve with poppet action pressure relief in same unit.
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D Watts No. 30A or 30L . . Diaphragm pressure relief valve for tanks heated by indirect heaters.
E Watts No. 135 or 123S . . Pressure reducing valve and strainer. Sizes ½, ¾, or 1
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So Far, So Good

Scientific Salesman Selection Program Gets Under Way

by
R. M. Marberry

In mid-summer this year, Timken Silent Automatic introduced a new five-step program for scientifically selecting dealer-salesmen. Essentially, the program consists of four screening steps for eliminating obviously unfit candidates, plus a final step in which surviving candidates are given an aptitude and ability test. The test papers are analyzed by a personnel testing organization with which Timken has made a connection, and a recommendation to either hire or not hire is then made to the dealer.

Since this is the first full-blown selection program introduced by an oilburner manufacturer, progress of the program has been watched with unusual interest by dealers, distributors and manufacturers alike. This article will bring readers up to date on results from the Timken program.

Is SCIENTIFIC SALESMAN selection "over the heads" of oilburner dealers?

Here is one manufacturer who doesn't think so. There may have been a small doubt in our minds five months ago when we gave our selection program a final tuning and wigwagged the go-ahead to our field men. But today, in the light of results since, we are as certain as we are of anything that oilburner dealers *are* ready for scientific salesman selection.

Most oil heat merchandisers worthy of the name are already sold on the need for scientific selection.

They have a good grasp of selection fundamentals.

And, we believe, they are capable of installing and operating a selection program with a minimum of assistance from the manufacturer or other sponsor.

Maybe our dealers are "different," but here again we don't think so. We believe *any* manufacturer's dealers will go for scientific selection to the same all-out extent—and may we add our hope that every manufacturer's dealers will have the opportunity, for it is our deep-dyed belief that a sound growth of the oil heating industry can be brought about only by increasing individual selling effectiveness—not by simply appointing more and more dealers and encouraging them to hire more and more salesmen on a guess-and-hope basis.

Increased *quality* of selling effort will bring about more lasting good than increased *volume* of selling effort—or, at least, this is the way it looks from this corner.

For the benefit of readers just now seating themselves, we got our selection program going some five months ago after nearly two years of exploratory and preparatory work and a considerable outlay in coin of the realm. Many months were spent in locating a personnel-testing organization that knew its business and could be trusted. Additional months were spent in developing a selection program tailored to the needs of the oil heating business in general and our dealers' businesses in particular. And then a great many more months were spent in testing some 100 Timken dealer-salesmen of good, bad and indifferent calibre to establish a "hiring zone." This "hiring zone" (if you don't know) is nothing more or less than a standard for use in determining how closely a given salesman-applicant resembles successful salesmen already in the employ of our dealers. If an applicant's ratings fall within the hiring zone, he is a good bet and should be hired. If his ratings fall either wholly or partially outside the hiring zone, it is something else again and the hiring recommendation is tempered according to the degree of variance.

Five months ago, when we were all set to roll, the big question was: Is *now* the opportune time to spring a selection program on our dealers? It will be months before they need to *sell* a burner, so wouldn't it be best to delay announcement of the program until later on?

R. M. Marberry

Advertising Manager, Timken Silent Automatic Division

The decision was to go ahead with it immediately in the belief that a pioneering program of this sort would require a lot of selling to dealers, plus a lot of learning and understanding on their part. We are glad now that this was the decision, not because the program *has* required a lot of selling, but because dealers want and appreciate the extra time they have been given to become letter-perfect in learning how to operate it and how to get the most from it.

Practically no resistance to the idea of scientific salesman selection has been encountered during the last five months. In fact, dealers have welcomed it with wide-open arms. The typical reaction has been, "Man, you don't have to tell *me* that high salesman turn-over is the biggest curse of my business. I *know* it is—and if you have a good, practical answer to the problem, I'm 100 per cent for it." Many dealers, it developed, have kept a more or less

accurate record of the expense of training a new salesman and fitting him into the organization. The average cost, based on a two-month training and break-in period, is in the neighborhood of $400—which, of course, is expense down the drain when the new salesman leaves, either of his own volition or at the dealer's invitation.

Selling the Plan

One of our field men was making practically no headway in selling the program to a Minnesota dealer when it occurred to him that he hadn't seen anything of Joe Doakes during his visit, Joe being a new salesman the dealer had hired some three months before. On mentioning this to the dealer, the latter said, "Oh, Doakes? Hell, he just didn't have it, so I had to let him go." No sooner had the dealer said this than a light came on in his eyes. "*Now* I get what you're driving at in this selection program," he said. "Let's go over it once more. I promise I'll be a lot more attentive this time."

Generally speaking (and as might be expected), the larger the dealer and the more salesmen he employs, the more interested he is in scientific selection. More than other dealers, he has seen a parade of new salesmen come and go and realizes the tremendous waste of time and effort that occurs when the new man isn't fitted for the job. In many cases, the larger dealer already has a selection program of sorts and so needs to be sold only on our way of doing things rather than on doing them at all.

But smaller dealers are sincerely interested too. There is a Timken dealer in a small town up in Maine who, heretofore, has operated as a lone-wolf. In recent years there has been a definite deepening of his market (due as much to his own efforts as to national factors), with the result that today he definitely plans to hire a salesman just as soon as waiting customers no longer meet all trains. "I have all kinds of relatives here I could put on the job," he says. "But I'm not operating a charitable institution and intend to hire the very best man I can get for the job—with the intention of keeping him as long as I live or am in business. I've never before hired a salesman, so if your program will help me do it the right way, it's something I want and will spend a whole lot of time studying, even though I may have to use it only this once."

Dealers' confidence in scientific salesman selection—in all lines of business—is being helped tremendously today by the great amount of wordage being devoted to this subject in the public prints. To cite only one example, the Army recently announced a new selection system which will be used in appointing 9,000 new officers in the Regular Army from among the 800,000 who saw temporary duty in the Army of the United States during the war. The selection system devised for doing this was given widespread publicity in newspapers (it made the front page of the Detroit Free Press) and was reported in at least one national magazine, which has had the very natural effect of increasing oilburner dealers' interest in and acceptance of scientific selection as applied to the oil heating business.

Tests in Other Fields

Also helpful in selling our program have been the pioneering efforts of manufacturers in other fields. For example, one of the better-known insulation manufacturers devised and introduced a selection program a short time before the war. This manufacturer's dealer in a certain Connecticut town used the program in hiring three new salesmen who, during the following six months, sold more insulation than seven existing salesmen who had been hired on a guess-and-hope basis. Our dealer in this town is a close friend of the insulation dealer—was told of this performance—and all but cracked our field man's ribs when he learned that we have a selection program tailored to meet the special needs of Timken dealers.

Something else that has helped our cause is the fact that our program offers a commonsense approach to the hiring problem which, essentially, is the same approach any good burner dealer would come up with if he were to spend the same time, effort and money on developing a selection program. The principal difference is that our procedure culminates in a scientific testing of the applicant's aptitudes, abilities and personality factors and so carries the procedure one step beyond the end point of a dealer-developed program. Expressed in other words, the program relies as much on the dealer's commonsense and good judgment as it does on aptitude and ability testing, which, incidentally, has been the shortcoming of many programs offered in the past in other fields. The time has not yet arrived, and probably never will, when only a series of tests can do the whole selection job. There are many intangibles which only the dealer can measure and weigh in his own mind on the basis of his own experience and any special factors which may exist.

One of our Pennsylvania dealers made this point using somewhat different words. "There is nothing new about your program except the testing part," he said. "I've been doing the same things for years, but your program tells me how I can do them better and in a more effective sequence and, also, supplies the means by which I can exercise good judgment on a sounder, more logical basis.

It is well to insert here that although comparatively few dealers are using the program for hiring new salesmen now (the present supply and demand situation being what it is), a great many *are* using it to test existing salesmen to determine areas of weakness and how these areas can be shored up. Almost invariably the test report on the existing salesman coincides with the dealer's estimation of the man, arrived at through long association with him—which, naturally, strengthens the dealer's confidence in the program and will result in his using it all the more intensively when he needs to add to his sales force.

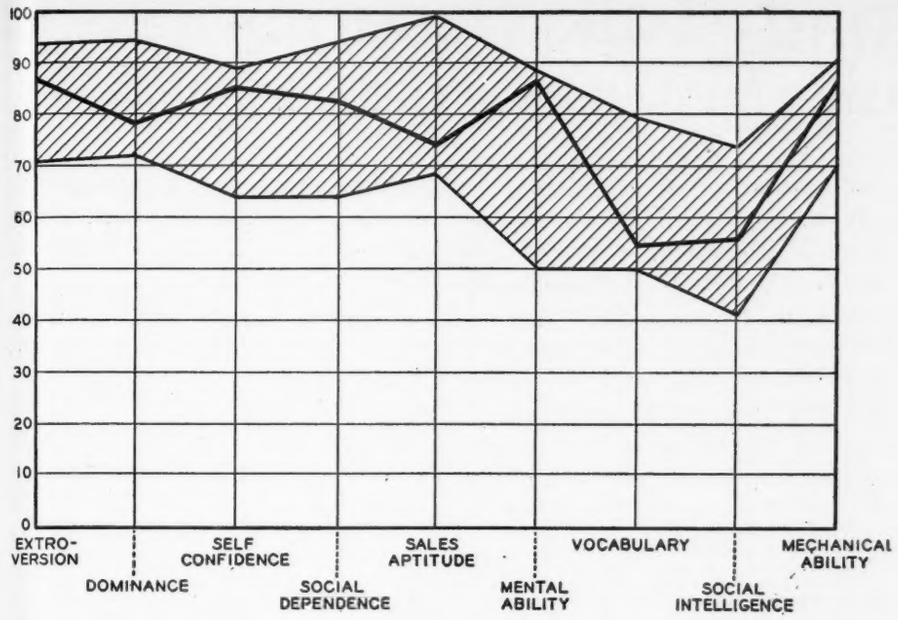
Some Misconceptions

Are there any popular misconceptions on the subject of scientific salesman selection—any preconceived notions which are at variance with the facts?

Yes, a few. But only a few. As previously stated, the good grasp most dealers have of the fundamentals of scientific selection has been one of the most surprising developments from our introduction of a selection program.

One misconception is that a person has to be a practicing psychologist to operate a selection program. Another is that scientific selection consists entirely of *testing* salesman-applicants. And still another is that scientific selection is sure-fire and never misses.

Recognizing these misconceptions, our field men make it a point to cover each in detail in presenting the program to a dealer for the first time. In covering misconception No. 1, they emphasize that a person doesn't have to be a psychologist to



The Hiring Zone, *shown by the shaded area in the chart, has been established by test of a large number of successful oilburner salesmen. When an applicant's individual pattern (solid line) falls within the hiring zone, the greater are his chances of success as an oilburner salesman.*

use scientific selection, any more than he has to be a master mechanic to own and operate an automobile. True, a lot of high-powered psychology went into the development of the program and is used in scoring tests (this work is done by our consultants). But the procedure the *dealer* must follow is as simple and easy to follow as a four-lane highway and gets just as good results for Joe Spivens of Hodgins Corners as it does for Dr. I. Q. Cranium himself.

Radar provides an apt parallel. More engineering and electronic know-how than could be packed into the Queen Mary went into the development of the radar equipment used during the war. Yet, the equipment could be, and was, operated by 18-year-old kids whose knowledge of mechanical things was limited to the innards of a Model T Ford, proving that complications under the hood don't mean a thing if the controls are simple and easy to use.

Misconception No. 2—that any salesman-applicant who pops his head inside the showroom door is to be handed a fistfull of test forms and a pencil and told to get busy—is effectively answered by the make-up of our program. Actually, testing an applicant is the last step in the procedure and is not done until he has been screened and scrutinized in four previous steps. The whole procedure is something like screening gravel with screens of gradually increased fineness. The result is that no more than one applicant out of every five survives the screening and is actually tested.

On the subject of these tests, it might be mentioned here that a number of dealers felt on first hearing of the program that many applicants would be "insulted" by being asked to take the tests. Our stock answer to this is two-fold: First, if the applicant is "insulted," there is a good chance that there is something about himself that he wants to cover up. And, second, if he is "insulted," he is exceedingly thin-skinned and can be tagged as a prima-donna type of individual who is extremely ill-suited to the job of selling oil heating equipment. Experience in other fields (and in this field to a limited extent) indicates that a "healthy" salesman with the right outlook on selling and life in general not only is agreeable to being tested, but actually wants to be. He has confidence in his ability and is confident that the tests will show him up for what he actually is. We have run across a few individuals who distrust aptitude and ability tests, but in most instances have been able to trace this distrust either to an inadequate test improperly administered years ago, or to a weakness in the man which some previous test has uncovered to his sorrow.

Misconception No. 3—that scientific selection is sure-fire and never misses—is scotched by our field men by the plain, bald statement, "it's a lie." Neither our procedure, nor any determination procedure yet to be devised, can measure anything as complicated and varying as a human being with unfailing accuracy. There will be misses just as long as man is born of woman and grows up under different conditions of environment. There may even be times when the procedure says "there's the man for you," with the later result that the man decamps with the dealer's daughter and all his ready cash—but this will be far less frequent than when the employer doesn't use any organized selection program.

What the procedure actually does is simply this: *It narrows the margin of error.* It increases the odds in favor of the dealer selecting the right man out of any given number of applicants. If the dealer was right one time out of four using guess-and-hope selection methods, he will be right three times out of four using scientific selection methods, and therein lies a great difference in increased selling power and profits—or, to look at the mirror darkly, a great difference in wasted training time and expense.

Lowers Chance of Failure

Right now we don't know how much the odds will be affected by the use of our selection procedure. All we do know is that three right choices out of four is the average in other fields—and that our limited experience to date bears this out. As previously mentioned, tests of existing salesmen are hardly ever at variance with what we know them to be on the basis of long association, which, to our minds, is highly significant and leads us to believe that our program has what it takes to winnow out the fit from the unfit.

The words "hardly ever at variance" used above remind us of one recent case that has us a little bothered. The dealer in a Michigan town tested his sales manager, a man of long experience and undoubted ability. When the test report came back, it said that the man was just barely fitted for the job and would require close supervision by the dealer, whereupon the dealer hit the ceiling. What the

(*Continued on page* 124)

Oilheating Talk Sessions

Round Tables in Six Cities Tackle Current Oilheating Problems

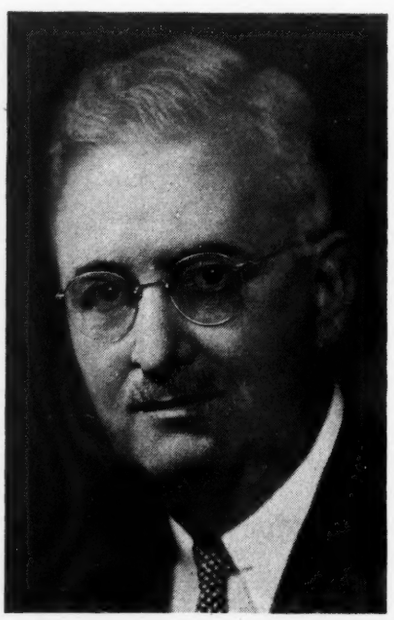
by
Clyde J. Morrill*

THE ROUND TABLE Discussions reported here were sponsored by the Atlantic Coast Oil Conference, Inc. They were conducted through the cooperation of the Conference members and others in the oil heating industry in the Northeastern states. At every meeting Robert Gray, FUELOIL & OIL HEAT, contributed his knowledge to the discussions. His preliminary spot study of burner service, incorporated in the discussion booklet distributed at each meeting, provided figures that served to make this part of the discussion extremely practical.

The idea of a Round Table was first suggested by H. E. Davenport, Salem, Mass., to Bob Gray and the Conference Secretary for the consideration of burner service problems in one of our Eastern markets. This was expanded by the Conference to include examination of "Branded Fueloil" as well, and it seemed highly desirable to broaden the base of the study geographically. Eventually seven meetings were held in six separate markets.

The purpose of these meetings was to get broad coverage of opinion in our oilheating industry in the Northeast, searching for expressions from retail distributors, large and small, in their own markets. Discussion was stimulated at each meeting by mimeographed questions posed for study. These questions had been solicited from Conference members representing independent companies from several markets. It was hoped, in spite of the generally recognized fact that the marketing of oil heat is not "horizontal" but "vertical," market by market, that, nevertheless, underlying agreement might be found on significant phases of both questions. Such generally accepted views might suggest some policies for consideration before the 1947-48 heating season. It was expected that research, especially market consumer research, might be indicated along some very definite lines. Finally, we hoped to record in one place some of the arguments pro and con that have been, in many a "bull session," inspirationally developed without any record having been made at the time. With the collective thoughts of over one hundred successful operators before us for careful review, it becomes easier for any marketer to evaluate the arguments that affect policy decisions that he must make before next heating season.

The urgency of the need of the study undertaken was indicated by concern expressed over growing competition from the gas industry. Burner service is an important key to successfully meeting such competition, its adequacy and the correction of its many faults being of prime immediate importance. Branded fuel oil may become an important part of service to the consumer, and the study of branding calls for a thoughtful appraisal of the effect of such development first, on the consumer and, second, upon the distributor.



Morrill

To make the reporting unbiased and as accurate as possible, separate notes were taken at every meeting by both Morrill and Gray. It was expected that what one missed the other would record, and that the different approach of the two men to the same problems would result in a report that truthfully set down ideas as they were expressed.

No person is quoted directly although most of those who attended will recognize phrases and ideas that were presented. In fact, it was of interest to the observers how often identical phrasing recurred in meeting after meeting, when argument waxed vigorous.

Those who have cooperated will, we hope, upon reading this report, feel that they have made a real contribution to our better knowledge of these problems. It was time and energy well spent. As Talleyrand said, "There is one who knows more than anyone. That is everyone."

Area of Agreement

Every market has its own traditional competitive complexion and every market has physical characteristics influencing fueloil marketing policies. We have no clearly cut typical operations exactly reproduced in each market, *i.e.*, business entities that cling to the same form. Coal is an important background for many, burner sales promotion for others, with perhaps the fewest in number actually having a background exclusively of retail fueloil marketing. Combinations in fueloil exist that include barge lot selling, tank car selling, under the rack selling and retail selling; either the final or additional functions.

Bearing these facts in mind there must be some reservation in expecting complete unanimity of mind. However all those participating substantially agreed on oilburner service that:

1. It should be possible to write a set of specifications covering burner service or, as expressed in some cases, a "definition of burner service."

2. There should be no difficulty in arriving at a cost of performing such service.

3. Gas competition makes it necessary for us to give serious consideration to plans that would equalize service expense to all customers, placing this service to the consumer on an actuarial, or insurance, basis, if possible.

*Executive secretary, Atlantic Coast Oil Conference, Inc.

4. Summer clean-ups of burner and boiler reduce emergency winter calls.

5. More importance must be attached to the public relations value of the burner service division of our distributing companies. There is definite wisdom in emphasizing the sales value of efficient service.

6. Oil company operated service divisions are a natural corollary of the growing importance of burner service public relations.

Burner Service Questions

*Question 1.** CAN A PRACTICAL SET OF SPECIFICATIONS BE WRITTEN COVERING BURNER SERVICE?

On the possibility that this could be accomplished all were agreed. The necessity for bracketing such specifications was an added immediate reaction, however, in each meeting. This bracketing took three distinct forms, and the first might be called:

Basic Requirements to Specifications

A. An oil burner sale and installation code of ethics.
B. A set of standard specifications accepted by the industry on oil burner installation.
C. An accepted practice in the approval of installed burners when oil burner service is to be undertaken.

Many operators felt that before a set of oil burner specifications could be practical there would have to be more attention paid by the industry to the necessity for efficient standards in installations. It was logically argued that no definition of the function of service was possible unless it included a common starting point. Possibly point A can be a long range goal. Certainly B and C require immediate study in each market, a project recommended to every local oil association.

The second bracketing can be termed:

Functional Requirements

A. Preventive servicing.
B. Maintenance servicing.
C. Servicing designed to obtain maximum efficiency for the consumer.

Some suggested that specifications should include a complete summer overhaul with a separate set of maintenance specifications. Many took the position that in assuming the responsibility of service any company should provide a service designed to obtain maximum efficiency of the heating plant, to the end that satisfied oil heat users were the companies' best sales builder as well as the industry's best hedge against gas competition. Those expressing the latter viewpoint agreed that specifications limiting actual work to be done were necessary to curb imposition on the part of unscrupulous consumers, even though such limitations in no way affected the responsibility of the fueloil marketer to maintain continuous efficient automatic heat.

The third bracketing was of course:

Adequate Mechanical Specifications

A. By type of burner (gun, rotary, vaporizing).
B. Limiting service to actual burner, its operation and parts.
C. Embrace the entire oil heating equipment such as burner plus tank, plus combustion chamber, plus oil lines, etc.
D. Embrace entire heating plant assuring customer of efficient 70° heat.

In discussing mechanical specifications considerable attention was given Bob Gray's spot study of two hundred burner service accounts. Obviously this study needs reinforcement by the addition of other studies with enough cases to provide a broader sample.

No. A above needs little amplification, but in developing B strong arguments were advanced to support the contention that burner parts including tank and combustion chamber should be part of a service specification. The spot study showed an annual cost of $1.80 per burner for parts (of the burner only) and one large operation servicing in excess of ten thousand burners confirmed this figure as being extremely accurate. Several argued that inclusion of parts eliminated the "free service" operator who depended on parts selling to carry his "free" service.

No. C represents a compromise between B and D but D, possibly the goal the industry must somehow shoot for if we are to meet gas competition, is a realistic acceptance of a consumer trend noted in the Harvard Report and confirmed by every Round Table Meeting.

In general every meeting recognized that competitive factors in each market would have much to do with the speed with which advanced ideas on oil burner service specifications might be adopted. There was unanimous evidence of desire for such progress and just as unanimous evidence that education of the public and

the fuel oil distributor and the oil burner manufacturer was necessary in order to obtain this goal.

That competition has in the past and will in the future cause faulty installations was freely admitted. The race for outlets for the flood of burners due in 1947 will cause manufacturers, in many cases, to appoint dealers who will be irresponsible, promoting through skimpy jobs continued high cost of oil burner service to the consumer, promoting as well the sale of gas installations by the local public utility.

Consumer research seems called for in almost every market that will provide the facts and figures on consumer reactions on this important subject. There is real hope in the recognition throughout the Northeast that competition from other fuels demands more realistic appraisal of our present oil burner installation and service specifications.

Question 2. IF SO, CAN AN ANNUAL COST BE ACCURATELY ESTIMATED FOR SUCH SERVICE?

There was a unanimous "yes," not only on actual service as rendered but also on an actuarial basis to cover a large group of customers. It was heartening to find so many firms cost conscious on this subject.

There was considerable dollar discussion here, and a general affirmative reac-

*The men attending the first round table in Philadelphia will find that some slight changes were made in the original questions. This was necessary to clarify the subjects considered and to help speed up meetings that followed.

tion that service contracts priced as high as $22.50 or over tended to create a fine prospect list for the public utility from the blue ribbon group of fueloil customers on any companies' books.

One company reported last year 300 accounts buying the $22.50 contract. This contract included service and parts on burners only. This season their price was reduced to $15 and their usual mail solicitation produced 1,300 contracts. Another reported a top $17.50 contract last heating season with only 1/3 of their customer list signed up, a reduction to $14 this year bringing in 75% with only mail solicitation. There was a constantly recurring suggestion that approximately $15 should provide a summer clean-up and emergency service and parts for the oilheating system (burner, tank and combustion chamber included) if any company could even approach complete coverage. Recognition was given of course to changes in this figure where man hours were becoming an ever increasing charge in some markets.

Question 3. SHOULD DEALERS ATTEMPT TO MAKE A PROFIT ON BURNER SERVICE?

Opinion on this was divided, about two-thirds voting that a slight profit over a break even basis was the most acceptable policy. One-third felt that good business principles should be applied to the burner division as well as to any other division, and that any department operating at near break even would have little sustained pride in its existence and a consequent suffering in efficiency of performance. Those arguing for a near breakeven basis recognized that normal overhead charges should be included as well as interest on money invested in equipment and parts stock.

Random comment suggested that "too high service charges promoted individual service mechanics setting up in business," "the oil burner service division is like an advertising division, you can't expect a profit," "profit and loss studies of an oil burner division are futile. You have to take into account the public relations value of the division and relate it to customer turnover." "If you are going to make the oil burner service mechanic proud of his job and the manager proud of his division, you've got to have a profitable division." "It's not necessary to give some service away to meet gas competition. It's a selling job. There are plenty of arguments in favor of oil." "A burner service division exists so you can sell a package in home comfort. Keep it so it is safely in the black, but no more."

Question 4. SHOULD WE GO ON AS WE HAVE IN THE PAST, CHARGING THE INDIVIDUAL CUSTOMERS FOR WHATEVER SERVICE THEY REQUIRE, OR SHOULD WE NOT GIVE CONSIDERATION TO A PLAN THAT WOULD EQUALIZE SERVICE EXPENSE TO ALL CUSTOMERS?

About two-thirds, with emphasis on the words "give consideration to," were in the affirmative, the remainder believing this an impractical study. As one member expressed himself, "If we've got to give consideration to such a plan to compete with gas, let's do it, make our plan and go ahead," indicating as others did that some further research was called for.

Most of the opposition centered on method and this is discussed under the next question.

Question 5. IF AN EQUALIZING PLAN IS FEASIBLE, SHOULD THIS TAKE THE FORM OF CHARGING ENOUGH MORE FOR OIL TO COVER THE SERVICE COST, OR SHOULD ALL CUSTOMERS BE PLACED ON AN ANNUAL SERVICE CONTRACT AT A STATED DOLLAR COST?

As in the case of many of the questions, meetings accepted one point of view initially, but as discussion brought out new points, the meeting reversed itself or became less positive. The relation of service charge to gallonage seemed highly desirable to many who later discovered difficulties that simple mathematics revealed. Naturally the markets of Baltimore and Philadelphia were far less favorable to a "charge per gallon for service" since their annual consumption for many users is near the 1,000 gallon mark. The northern markets with an annual average of about 2,000 were more inclined to argue for this arrangement. It was brought out that a per gallon charge, far from equalizing service costs, assessed the larger consumer with a charge considerably above what he should pay, while collecting from the small user far too little. This would tend to lead consumers in the high bracket to refuse service, and educate the low consumption buyer on a service charge that could not be maintained. Many expressed competitive fears that an added charge in the oil price for oilburner service would establish a situation favorable to undercover price cutting.

The disadvantage of the annual oil burner service contract tied to the oil contract seemed to be in the necessity for an individual additional sale to each customer. There were many who felt that under competitive conditions in their market it would be impossible for one or two firms to adopt a 100% tie-in policy on any basis without suffering considerable loss of customer accounts.

Finally in most meetings there seemed to be so much confusion of mind after full discussion of this question that less

than half attending cared to register a vote on either a gallonage charge for burner service or a 100% tied-in contract charge.

In two of the later meetings some thought was given to a summer clean up contract tied-in with every fueloil contract and a small gallonage charge to cover emergency service. This seems to be a thought that developed out of the discussion on this subject that is decidedly worthy of future study. It received cautious but favorable reception.

Question 6. WHAT HAS BEEN YOUR EXPERIENCE WITH CUSTOMERS WHO GOT A SUMMER VACUUM CLEANING AND TUNE-UP JOB, AS TO THEIR SUBSEQUENT SERVICE NEEDS? IN OTHER WORDS DO YOU NOT FIND THAT WHEN A BURNER GETS A THOROUGH SUMMER CLEANING VERY FEW EMERGENCY CALLS FOLLOW DURING THE WINTER?

In five of the six cities visited, five unanimously voted that winter service calls were greatly reduced by summer clean ups, although all emphasized the uniform specifications were badly needed in "summer clean up" work. The sixth city was not too positive in their contrary view, and the men have promised to do some checking for the sake of accuracy.

Many emphasized the desirability of summer clean up work purely because it avoided heavy service scheduling during winter months. All the clean ups that can be thrown into the summer will result in better work, since it is not done under pressure; lower costs, since there is little if any overtime; lower costs, because helpers can be used under the direction of regular service mechanics at less than mechanics rates; and continuous employment can be guaranteed to desirable, expert workmen. On most burners a far more complete clean up is possible in summer than in winter when it is often impossible to dismantle a burner for the desired length of time.

A most important side of summer clean up work, surprisingly, was seldom mentioned. The accent on the customer contact is now more and more present in the case of the burner mechanic and is practically extinct in the case of the truck driver, making it extremely desirable to surround the mechanic with the best possible conditions for favorable customer reaction. An emergency call during a blizzard where heat stoppage is a matter of acute concern to a householder, with a repair mechanic who has doubtless worked many hours overtime, is hardly an ideal set up for the exchange of public relation courtesies. That a harried mechanic should be highly conscious of his public relations duties with a harrassed householder prodding his repair work in a cold basement is expecting a little too much of human nature. Every chore of oilburner service that can be performed during warm weather tends to improve customer relations and avoid service friction.

Question 7. DO YOU HAVE DIFFICULTY GETTING YOUR SERVICE MANAGER TO TAKE A PUBLIC RELATIONS ATTITUDE? SERVICE MANAGERS USUALLY FEEL THAT THEIR PERSONAL PROGRESS DEPENDS UPON THEIR DEPARTMENT BEING PROFITABLE AND AS A RESULT, EVEN IN THE BEST COMPANIES, THEY ARE INCLINED TO DO CONSIDERABLE GOUGING OF CUSTOMERS.

It came as a new thought to far too many men attending these meetings that the burner service division was the public relations division of the company. In the majority of cases executives have been content to analyze lost accounts, doing little to train their service division to prevent such losses.

Too Little Supervision

Few executives regularly inspected service cards, only about one in five so reporting. Frequently, it was evident that the service manager was out to show a profit to justify his salary and under his direction the customer was apt to suffer.

Recent surveys have shown that more than 50% of new oilburner and fueloil customers come from other customers recommendations. Only a few reported, nevertheless, that their service division was either directly under the sales manager or considered as an important part of their sales activity.

The point was continuously raised that it costs on an average of $25 to replace a lost fueloil account and that more attention to a service department's ability to prevent customer turnover would pay dividends.

Several advanced the argument that a service division's main objective should be efficient heating cost to the consumer and that this automatically produced a public relations conscious service division.

Random quotes, "An oil company has far closer relations with its mechanics than a public utility can. We ought to be able to produce better mechanics and better service." "The slogan in our sales department is DON'T LOSE AN OIL ACCOUNT."

Question 8. A PUBLIC UTILITY LIKE A GAS COMPANY IS A REGULATED MONOPOLY. THEY ESTABLISH A BURNER SERVICE DIVISION THAT OPERATES AT LOW COST WITH HIGH EFFICIENCY. DO YOU BELIEVE THAT OIL MARKETERS IN YOUR MARKET CAN MEET THAT TYPE OF SERVICE COMPETITION? HOW?

By accepting our responsibility for automatic heating we can meet this competition in any market. Careful cost studies will reveal ways and means of producing 70° of heat in a customer's home so efficiently through oil heat, that gas will make slow progress. This has been demonstrated in Baltimore. It can be done in other markets.

Question 9. HAS THERE BEEN AN INCREASE OR A DECREASE IN THE NUMBER OF CUSTOMERS DURING THE WAR YEARS WHO BUY AUTOMATIC HEAT RATHER THAN MERELY OIL?

No very strong opinions. Four meetings believed that the war experience had made people more conscious of automatic heat, one meeting believed the reverse was true, and one could see little change.

There was complete agreement that now was the time to drive hard on the idea of "automatic heat" or "home comfort" and get the phrase "oilburner service" out of our vocabulary so far as the public is concerned.

Question 10. FROM THE STANDPOINT OF PUBLIC POLICY AND INDUSTRY DEVELOPMENT, WHICH TYPE OF BUSINESS ORGANIZATION CAN PROVIDE THE MOST EFFICIENT SERVICE:

(a) Oil company operated service departments.
(b) Neighborhood heating contractors.
(c) Sub-contractors to oil companies.
(d) Specialized service organizations doing work for many oil companies.

Fully 95% voted for (a), oil company service departments. This might have been expected since in all the meetings not more than two or three men were not in the oil business. The strongest reason for this opinion was that the oil company, in rendering burner service, establishes a single responsibility for heating satisfaction, and that he cannot afford to take an

unfair advantage of a customer in service dealings, for that would jeopardize an oil account, which is the more desirable part of the business.

A few men voted for (d), the specialized service organization taking care of several oil companies. The obvious reason here was the desire to get away from the responsibility and perhaps financial loss sometimes found in service departments. A secondary reason was that the specialized organization, because of its large volume of service business, can afford to hire more expensive talent than can the individual service department, for example, a combustion engineer who would advise on the occasional trouble jobs that baffle most oil burner mechanics.

The objection to the specialized organization is that it has many temptations to overcharge customers and sell parts that are not needed. An opinion was expressed that such organizations are usually detrimental to the industry's public relations unless they can be set up on a non-profit basis, with the manager well paid and trustworthy, to operate on behalf of a group of oil companies. Exceptions to this general theory were noted in that some central service organizations do not gouge customers. Such companies do, however, as a rule charge the public more than the service departments of the larger oil companies, $20 to $25 for annual service, without parts, being common.

Opinions on classification (b), neighborhood heating contractors, were generally along the line that this operator is normally too small to be able to afford a good service department. There was a feeling that he is responsible for a large share of the incompetent service being rendered, because of his lack of specialization on oilfiring. Question (c) the subcontractor to one company, was frowned on because in the past these had so often proven to be fly-by-night arrangements. After a few months the oil company usually discovered mistreatment of customers, not so much incompetence as in the case of the heating contractor, but rather dishonesty through unwarranted charges.

It was generally agreed that when the oil company has its own service department this can be an adjunct to building good will, through the more frequent opportunities to plant the company name and methods in the customers' minds.

Branded Fuel Oil

This proved to be a much more emotional subject than oil burner service, as was to be expected. Because of the more sensitive presentation of argument it is much more difficult to report clear-cut opinions from the Round Tables.

All meetings were of the opinion (a few individual members excepted):

1. Branded product would not be a desirable addition in the case of a well established fuel oil distributor.

2. Branding of a new distributor or a small distributor was of definite value to him, since it cloaked with respectability an operation that either had yet to win acceptance or had none too good a reputation for good marketing practice.

3. Unless caution was used in the promotion of brands and in their application to small operators, the brand would suffer.

4. The inability to sell branded oil to large well-established operators and the consequent forced indiscriminate selection of small operators to carry the brand, can result in the development of competition harmful to the industry in any market.

5. All meetings emphasized the increased consumer buying of automatic heat, and the growing importance of oilburner service. The brand, if applied to fueloil only, will mean little to the average consumer.

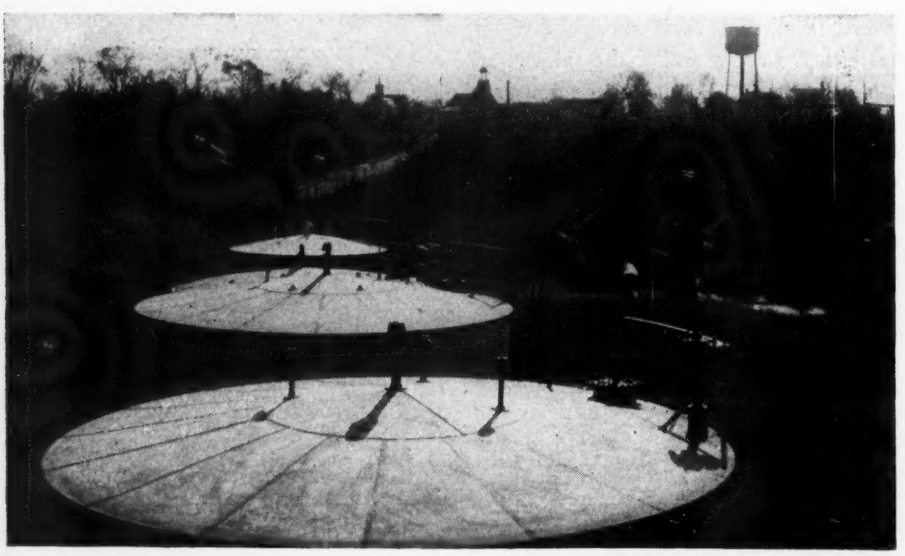
Discussion On Brands

Question A. IS THE ESTABLISHMENT OF NATIONAL BRANDS OF FUEL OIL DETRIMENTAL TO THE BEST INTERESTS OF THE INDEPENDENT DISTRIBUTOR?

Answers to this question brought out rather sharply the inherent differences between fueloil markets and again showed that we do not have a homogeneous, or horizontal, national market in the oilheating industry, but rather a number of vertical industries, by individual cities. To illustrate, in one market the men attending the discussion voted unanimously that national branding would not work against the independent, while another group voted unanimously that it would. In the other meetings, opinions were split, with the overall consensus leaning in the direction of the belief that independents would be hurt.

Interestingly, there existed in each meeting, on the part of at least one or two men, definite distrust of the motives of the refiners in planning to brand fueloil. These people took the position that majors have been unable to build any substantial amount of direct business and think that brand building would eventually let them control the market. These men feel that the majors grossly mistreated gasoline jobbers in the East some years ago, virtually driving them out of business after establishing brand acceptance, that the major's leased station was the outgrowth of this policy. The large majority of men, however, displayed no distrust of motives and discussed the whole brand topic objectively.

It was recognized that the small independent has more to gain by tying to a major's brand than has a large company, principally because the big company name can partly overcome the weakness of the small dealer's name. Strong objection,



however, was raised in several of the meetings over the type of dealer being given the brand. Some complained that little, or at least inadequate, investigating had been done of the dealer's integrity or his common sense in business matters, that this small dealer often engaged in practices destructive to the industry's consumer relations, for it was rarely possible to get the small one-or-two truck operator to think in terms of automatic heating. Instead, he sold fueloil as a commodity only, and let nature take its course.

One large operator in one of the meetings told of firing a fueloil truck driver after finding him cheating the customers repeatedly. The man bought a second-hand truck, tied to a brand, got his truck painted free and is now respectable, but is expected to continue cheating customers, in the opinion of the man who fired him.

Whether or not a wedding ring will cure marketers, who have been in times past destructive competitors, of habitual shortcomings, is a moot question. If the average cure is high, fueloil marketing will gain in respectability. The ever present industry curse of "gallonage," however, would tend to soften the pressure on the marketer to eradicate his spots, and past experience indicates that the brand wedding ring will make little change in such marketers. Many felt that present branding of small operators was bound to result in added difficulties in many markets.

Free Truck Painting

Several bulk plant operators complained about majors painting trucks free for the small dealers who carry their brands, calling it "chiseling." Actually, as another bulk operator pointed out, it is sales expense and there's nothing dishonorable about it if the company can afford it, and if it is not done for the deliberate purpose of injuring competition. "Chiseling," should not be associated with larceny, but simply means that the company so accused is doing something that the accuser doesn't want to do. Most often the one who cries "chiseler" has repeatedly been called that by most of his competitors.

One independent primary supplier suggested that were his company, or any other in his category, inclined to make an allowance in points per gallon in lieu of truck painting and repair, advertising to establish brand, etc., said company would be labelled immediately as a price cutter. The point is that a number feel that branding, as it is being conducted, seems a competitive weapon fully as much as an attempt to establish brand consciousness.

Among those who favor the establishment of national brands, or see merit in the idea, many believe it would help to "raise the level of the industry from the gutter." It is generally recognized that while independent fueloil distributors have built the business, and can handle it, as a rule, better than majors because of their day-to-day flexibility, many of them operate with a very short-range viewpoint of getting all that the traffic will bear now, rather than building longer-range good will for oilheating. It was pointed out that this becomes more important as we compete with gas, which has one central utility in a city.

Advertising Benefits

Some felt, therefore, that the establishing of national brands would be beneficial to independents, for the necessary advertising to build the brand would help oilheating all down the line, particularly in strong gas areas.

The point was also raised that more and more customers for fueloil are coming from the lower income brackets where price of the product becomes an increasingly important factor. If branding tends to add to the cost of fueloil, the huge market in the lower income bracket may be jeopardized.

Question B. ESTABLISHED INDEPENDENT FUEL OIL MARKETERS HAVE BUILT A GOOD WILL THAT IS A VALUABLE ASSET, USING THEIR OWN NAME. WILL THE MARKETING OF A NATIONAL BRAND OF FUEL OIL BY SUCH A MARKETER TEND TO ADD TO OR DETRACT FROM HIS GOOD WILL ASSET?

In all meetings strong representations were made by the large well-established independent operators to the effect that in taking on a branded product they would be trading themselves out of position. The good will that they have established over the years was a valuable asset, their own name was a brand, covering automatic heat, and the addition of a branded fueloil would add nothing to their operation but confusion in the minds of their customers.

It is important to recall that the men in these meetings were industry leaders, and that while they were representative of the larger volume in any market, they were not representative in terms of all dealers.

Advertising of brands, in the opinion of some, will tend to make people more conscious of the product, fueloil, rather than carefree, automatic oil heating. These men feel that their customers look to them for satisfaction, rather than to the fuel that brings the satisfaction with their heating, and that peoples' minds should be focused on 70° rather than on a fuel.

A significant point in these meetings was that the few large, strong companies that have adopted the brands of their suppliers are the kind of companies that have always sold undivided responsibility for heating satisfaction, rather than selling a fuel, so they obviously do not feel that the major's brand disturbs this relationship.

Random thoughts expressed against branding were, "The money planned to promote brands should be saved to give customers more service." "It's hard to establish a brand preference for a product that the customer never sees." "With national advertising of brands there's a tendency to spread out into thin or marginal areas to take care of people who ask to buy, thus destroying the economies of concentration."

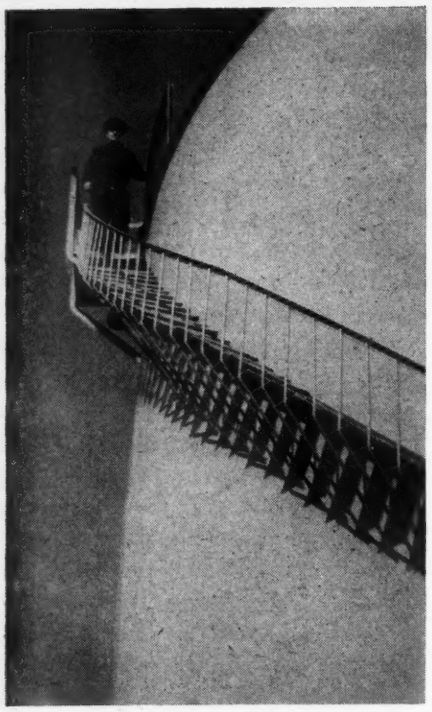
Taps Talent Reservoir

Favorable to branding were these thoughts, "The wedding ring ties the small businessman to a reservoir of talent that can help various phases of his operation. This is particularly worth noting in a postwar era wherein marketing is to be treated much more directly than prewar, to dispose of the product of our enlarged productive capacity in all lines." "There would be reason to expect more liberal credit, or stockpiling, arrangements over the long pull." "Trucks are painted free by the supplier, in order that he may get suitable display for his trade name," "would get research and marketing help."

Question C. IF SOME GOOD WILL IS LOST BY BRANDING, WOULD THERE BE COMPENSATING FACTORS?

Answered under Question B.

Question D. IF A DISTRIBUTOR MARKETS A NATIONALLY KNOWN BRAND FOR A YEAR OR MORE COULD HE CHANGE TO ANOTHER NATIONAL BRAND OR REVERT TO



AN UNBRANDED PRODUCT WITHOUT INCURRING APPRECIABLE LOSS OF BUSINESS?

About three-fourths voted "yes" on this one, but there were a number of qualifications. Obviously, the strength of the respective brands would have much to do with it. There are perhaps a dozen companies in the industry whose own brands in their markets are decidedly stronger than any major. Again, different majors have unequal brand acceptance.

Experience by those who have featured a major brand and then shifted to another has shown no appreciable loss of business, again demonstrating that consumers think of oilheating more as a service than a product, and look for satisfaction to individual persons rather than things. One dealer who is also strong in selling coal explained that for 28 years he featured a national brand of coal, and when this was taken away from him last season his annoyance was unlimited, but his sales tonnage did not shrink.

Question E. DO YOU BELIEVE THAT HAVING INDEPENDENT DISTRIBUTORS ADOPT THE BRAND IDENTIFICATION OF THEIR SUPPLIER, EITHER MAJOR OR LARGE WHOLESALER, WOULD GIVE THESE SUPPLIERS THE STABILITY AND SECURITY THEY NEED IN A MARKET, ASSUMING THEY WITHDREW FROM DIRECT SALES?

This was the key question, for however they read it, most of the men thought of it as considering an offer to majors to tie to their brands if they would stop direct sales. In one meeting the vote was 100% favorable to this bargain, in another 100% opposed. All together, the vote would indicate doubt that the suppliers would be as secure after dropping direct sales, and unwillingness to trade their independence for a brand even though all direct sales by majors were stopped. Again, recall that these men were heads of large independent companies, not small or average sized ones.

The thought was expressed that majors know that they will probably be forced out of direct marketing sooner or later, in the interest of the small business protective movement, and hope through branding to solidify their positions in each market before that happens. A substantial majority think that majors should stay in direct marketing of distillate fuels. No one expects their percentage of the total to grow, for "they can't merchandise oil heat, anyway," and they help stabilize prices and help put a floor under undesirable practices.

One independent primary supplier felt that the argument that branding of fueloil had become necessary in order to permit the integrated supplier to hold position in the various market where they operated, when and if direct sales had to be abandoned, an insincere argument.

His contention was that no integrated company possessed more than a fraction of the percentage, estimated at 20%-25%, held by the integrated companies as direct business. It hardly seemed credible that all of the expenses incident to the establishment of a brand would be incurred to hold so small a fraction of the demand in any market, he felt.

Help Wholesale Position

In reply it was pointed out that brand consciousness, once established with the public, would in addition prepare the way for increased selling at wholesale to jobber accounts.

While some were inclined to discount all fueloil brands because the oil heating public is not now brand conscious, others made it plain that we cannot count on a continuance of that situation. In recent market studies, 25% of fueloil consumers say that they believe a particular brand is better than all others (usually the one they were using), while gasoline consumers to the extent of 56% swear by a brand for that product. Advertising and other promotional expenditures per gallon of gasoline have been many times that spent per gallon of fueloil. This will not be so in the future to the same degree.

General Conclusions

1. The Round Table method of discussing such important subjects proved to be quite as educational for those participating as it was for the two "observers." Many comments were received from participants following meetings that the round table attended was a "swell meeting." It suggests that such gatherings might be far more profitable to fueloil men everywhere than meetings where a formal speech-making program is the usual procedure. Certainly more "round tables" are in order on many subjects.

2. Some very definite consumer research is indicated.

A. Consumer reactions on kind of "service" desired, preventive and maintenance and extent of each.

B. Consumer reactions on method of charging for service.

C. Consumer reaction to 100% service tie-in with oil contracts in order to

(*Continued on page* 128)

Commercial Oilburner Capacity

Heating Equipment Ratings Have to be Understood

by
Kalman Steiner*

To THE OILBURNER DEALER generally falls the important responsibility of selecting the proper size of oilburner and of designing the correct firebox. Many factors enter into consideration of these aspects of an installation, among them being load, boiler rating, overload capacity, rate of heat release, local ordinances. The dealer should also be familiar with the materials used in firebox construction and the general subject of boiler settings.

Any discussion of capacity and load, as applied to fuels and their utilization, involves concepts of units of measurement, and the use of heat units in this industry has not been standardized, leading to much confusion as to the meanings of common terms. Thus the dealer encounters such expressions as square foot of radiation, boiler horsepower, British thermal unit (Btu) used indiscriminately and interchangeably but without rigid terminology. It will be well at the outset, therefore, to define the terms in which capacity is expressed.

The basic unit of all heat engineering is the Btu, which is a very small quantity of heat—the amount that will raise the temperature of a pound of water one degree F. The symbol Mb has been devised to signify 1000 Btu. The Btu is a precise unit, and the fundamental concept to which all other expressions of capacity or heat quantity must be reduced. Time is also a factor in determining capacity, since capacity implies an amount of heat made available in a given time. The hour serves as a convenient unit of time. Mbh is a symbol signifying 1000 Btu per hr.

Two widely used terms of capacity are the square foot of equivalent direct radiation (sq. ft. EDR) and the boiler horsepower (bhp). Each may be defined in terms of the fundamental heat unit and the fundamental time unit. One sq. ft. EDR is an output of 240 Btu per hr., and one bhp. is an output of 34,475 Btu per hr. It is perhaps unfortunate that these two expressions have such widespread use in the industry, as their original significance has been lost through technological changes.

The fuel gas industry uses the word therm to signify 100,000 Btu. This is an expression of heat quantity only; there is no time factor, and so to convey an idea of capacity it would be necessary to state therms per hour.

Origin of the Square Foot

As originally devised in the early years of the heating industry, a square foot of radiation was intended to imply that actual amount of surface of a radiator. But today radiators are made in so many diverse forms and shapes and operate at so many different temperatures, that no precise meaning attaches to the actual surface of a radiator. And so it has become necessary to define the equivalent of what a square foot of radiation should be under ideal conditions: the surface that will emit or transfer 240 Btu per hr. from a surface temperature of 215° F. to surrounding air at 70°. Each manufacturer of radiation or other heating apparatus reduces the ratings of his equipment to the equivalent of such standardized surface, and the quantity is expressed as equivalent direct radiation (EDR). It should be understood that sq. ft. EDR is a hypothetical unit; no radiator will contain the actual amount of surface numerically equal to its EDR rating. And few radiators operate at precisely the conditions imposed. Ordinary cast iron radiation can be used for one-pipe steam heating, vacuum, vapor, thermal circulation hot-water, and forced circulation hot-water heating, representing a range of temperature of perhaps from 140° to 240°. There are also radiators and unit heaters designed for operation with high-pressure steam, with even higher temperatures.

During the early years of hot-water heating, employing thermal circulation of the heating medium and vented expansion tanks, water temperatures did not exceed 180°, and heat emission was figured at 150 Btu per sq. ft. per hr. But modern hot-water systems are closed, operating under pressure, with pumps to circulate water, and heat emission rates approach those for steam.

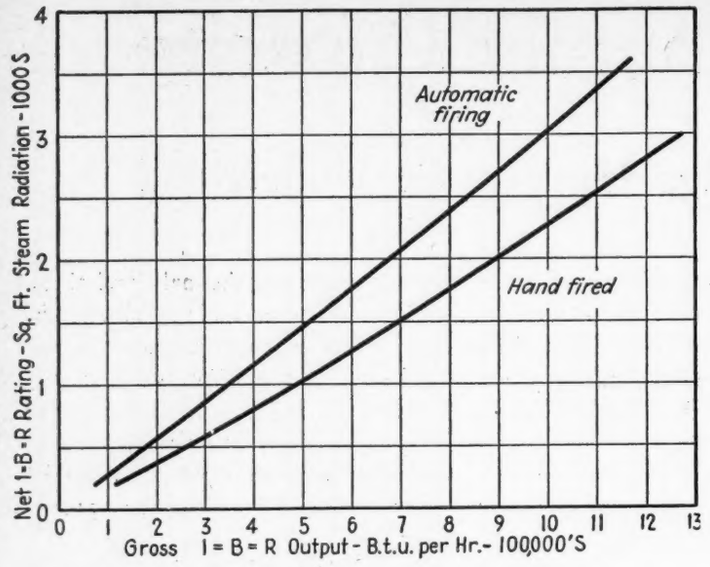
It should be understood that the values for *surface* given in tables for various heights and widths of cast-iron radiation are not values of *actual* surface, but of *equivalent* surface, expressed as sq. ft. EDR. These values have been determined in laboratories by measuring the heat output of the radiator section under the standard conditions of 215° metal temperature and 70° room temperature, the observed heat output in Btu's per hr. being then divided by 240 to obtain the corresponding sq. ft. EDR.

Horsepower Explained

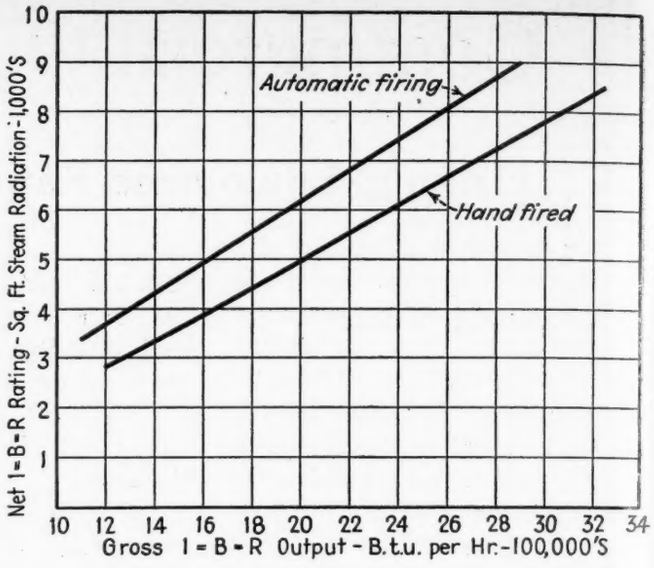
The expression boiler horsepower is even more obsolescent than the sq. ft. of radiation, and much more confusing. While the latter has been defined in a manner that clearly establishes its value both as to load and boiler capacity, the bhp. is defined only as to load and not as to boiler rating. The sole definition of the term is the evaporation (or condensation) of 34.5 lb. water per hr., the temperatures of both steam and water being 212.° This is the equivalent of 34,475 Btu per hr. Unfortunately, few boilers generate steam at atmospheric pressure (zero gage pressure), and still fewer loads condense steam from a supply maintained at atmospheric pressure. It is therefore necessary to calculate from data obtained at prevailing conditions, the equivalent performance at the standard conditions.

The bhp. is also used as a unit of boiler rating, but historically the background is quite different. Originally, engineers assigned a rating to a boiler on the basis of the amount of heating surface it contained. Heating surface is defined as shell or tube surface with water on one side

*C. Hoffberger Company, Baltimore.



I-B-R Chart giving allowable net loads for boilers having gross outputs up to 1,250,000 Btu per hour.



I-B-R Chart giving allowable net loads for gross boiler outputs up to 3,200,000 Btu per hour.

and exposed to combustion gases on the other side. In the rating of conventional steel boilers, 10 sq. ft. of heating surface constitutes one bhp. capacity.

It is of course traditional to state the heating value of fuels in Btu per unit of weight or volume. It will best serve the purposes of this discussion to speak of Btu per gallon of fueloil. Since this discussion is devoted to industrial oilburners, which usually burn either No. 5 or No. 6 fueloil, it will be well to establish an average value that will cover either fuel. The heating value of fueloil depends principally upon the specific gravity, or in other words, upon the weight per gallon. For No. 5, an average value is 148,000 Btu per gal., for No. 6, 152,000. A good value to cover both, therefore, would be 150,000 Btu per gal., which value will be used here. For estimating required burner capacity for a given application, it is customary to assume 70 per cent overall efficiency, which would yield 105,000 Btu available per gallon of fuel burned. Dividing that figure by 240 gives a quotient of 438 sq. ft. EDR equal to a gallon of fuel per hour. Since capacities are generally dealt with in round numbers, a ratio of 400 sq. ft. EDR per gal. per hr. usually is allowed, with even safer results in estimating required capacity. In terms of boiler horsepower, again dividing the net heat available per gallon of fuel, 105,000 Btu, by 34,475, a ratio of 3 bhp. per gal. fuel per hr. is established. Stated conversely, an output or load of 1 bhp. requires the combustion of 1/3 gal. per hr. It should be remembered that these ratios are to be used only as a basis of estimating required burner capacities—actual performance efficiency is quite another matter, which must be separately considered for each installation.

The subject of boiler ratings cannot be stated as concisely as might be desired, despite the heat relationships thus far discussed here. Rather, the subject is complicated by a great deal of confusing data and conflicting practice. For the purpose of considering rating principles, it will be necessary to classify boilers under at least four headings: cast-iron boilers, low-pressure steel boilers, high-pressure steel boilers, and high-pressure boiler-burner combinations.

Cast Iron Ratings

There still exists much uncertainty as to what is meant by the rating of a cast-iron boiler. Old timers in oilheating recall that the first published ratings by manufacturers of these boilers were so-called "commercial ratings" and that by dividing the published rating in half one arrived at the net load rating. The other half was allowance for starting, pickup, piping loss, etc. Of course such data were based on hand firing, which presupposed a certain time interval between refuelings. More recently, some manufacturers publish ratings conforming to the code of the Institute of Boiler and Radiator Manufacturers, designated IBR ratings. These ratings are based on actual laboratory test under rigid conditions as to performance, and are *net load* ratings, meaning the amount of actual connected radiation that can be carried on the boiler without having to make allowance for piping and pickup. As yet, IBR ratings have not been issued on all sizes of boilers made by the member manufacturers, and all manufacturers of cast-iron boilers are not members. Hence other ratings will be found in catalogs, other than IBR, which may be either net or gross ratings, requiring that one be on the alert as to just what the published rating means.

Most ratings of steel heating boilers will be listed in accordance with the code of the Steel Boiler Institute and designated SBI ratings, or, as the organization was formerly called, Steel Heating Boiler Institute ratings (SHBI). This code is based on *gross* boiler output, in sq. ft. EDR, and allows 14 sq. ft. radiation gross for each square foot of boiler heating surface if the boiler is hand fired, or 17 if mechanically fired. It will be noted that this code derives from the conventional practice mentioned above of allowing a bhp. of capacity for each 10 sq. ft. heating surface (14 x 240 = 3360 Btu per sq. ft. boiler heating surface; multiplying again by 10 gives approximately the 33,475 Btu per hr. that constitutes 1 bhp.).

Manufacturers of conventional types of high-pressure steel boiler still adhere to the traditional, allowing 1 bhp. for each 10 sq. ft. of boiler heating surface. In re-

cent years, makers of certain types of combination boiler-burner units, generally including means of mechanical draft also, have rated their boilers on the basis of output as determined by test. Since most steel boilers can be developed to twice the output represented by the traditional 1 bhp. for 10 sq. ft. heating surface, these too could be rated, on the basis of maximum attainable output, at twice the usual rating.

To summarize:

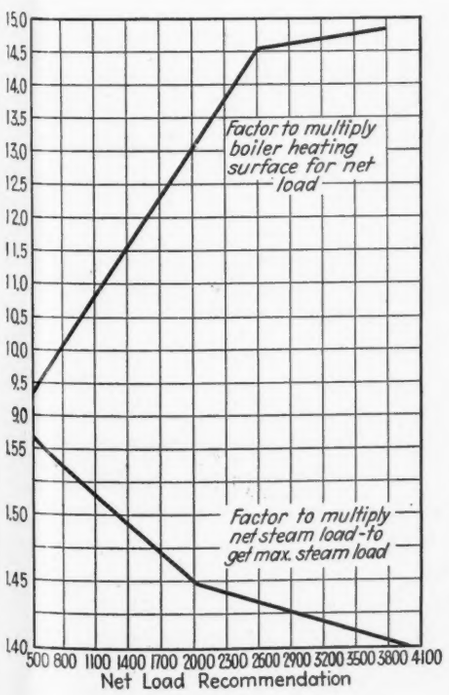
CAST IRON BOILERS

Some catalog ratings, designated IBR, indicate from actual test the *net* connected load that the boiler can carry, allowance having been made for pickup and piping loss. Ratings expressed as sq. ft. EDR. Usually, catalog also shows recommended burner firing capacity.

Other catalog ratings, not coded, give the manufacturer's rating on either a *gross* boiler output basis, or *net* connected load basis, in sq. ft. EDR.

STEEL BOILER, LOW-PRESSURE

Most ratings conform to SBI code, on *gross* output basis, giving both a hand-fired and a mechanical fired rating, in sq. ft. EDR.


Factor to multiply boiler heating surface for net load
Factor to multiply net steam load to get max. steam load
1.50
1.45
1.40
500 800 1100 1400 1700 2000 2300 2600 2900 3200 3500 3800 4100
Net Load Recommendation

Net load factors of Heating, Piping Contractors for heating boilers. Factors for 4000 sq. ft. EDR apply to larger boilers.

STEEL BOILER, HIGH-PRESSURE

Most ratings are on basis of 1 bhp. for each 10 sq. ft. heating surface, *gross* output. To convert bhp. to sq. ft. EDR, multiply by 140.

In making his survey of a prospect's plant, the dealer should investigate the past performance of the heating system. Should there be no indication that the boiler is inadequate, or overloaded, and if no future load additions are contemplated, then the dealer has only to ascertain the boiler rating and design his oilburner installation accordingly. This is the situation that should prevail in the great majority of cases: the dealer finds an existing building, a satisfactory record of heating performance, and no future increase of load probable. Now the important step is deciding upon the required burner size. If the *gross* rating of the boiler is known, choose a burner having at least 50 per cent additional capacity above the *hand-fired* rating. For instance, should it be a low-pressure steel boiler having a hand-fired catalog rating (SBI) of 10,000 sq. ft. EDR, the mechanical-fired rating will be 12,150 sq. ft. Choose a burner having a capacity of 15,000 sq. ft. EDR. Or again, if it is a cast-iron boiler having a *net* IBR rating of 5,000 sq. ft., consult the manufacturer's catalog for the corresponding gross output, which will be found to be 1,600,000 Btu for that size boiler. Dividing by 240 gives a *gross* boiler output of 6666 sq. ft. EDR. Hence the burner to use is one having a capacity of about 10,000 sq. ft.

The next case to consider is where there has been difficulty in carrying load with an existing boiler, or where there are two or more boilers and it is desired to carry load with the minimum number of boilers. Frequently, boilers can be developed to outputs in excess of those formerly produced by hand firing. With low-pressure steel boilers, if there is ample draft available and if adequate combustion volume is provided, overloads as high as 200 per cent of the hand-fired rating can be attained. Thus in many cases a single-boiler installation has been enabled, through a properly engineered industrial oilburner installation, to develop sufficient output to obviate need for additional boilers.

It is not uncommon to arrange a high-pressure installation for oilfiring to 200 per cent of the conventional bhp. rating. Here again, draft and combustion volume are the controlling factors.

From what has thus far been said about boiler ratings and output, it should be obvious that the oilburner dealer can and should base his selection of burner size upon the boiler rating and the desired percentage of rating to be developed. In every case, once the maximum boiler output has been determined upon, the burner selected to do the job should have a capacity at least 50 per cent greater. This margin is good insurance against the many variables that affect operation: draft, soot and scale in the boiler, sudden peak loads, etc.

The proper size of oilburner having been decided upon, the next step is to consider the boiler setting, combustion volume, and firebox design. These matters will be discussed in the following article of this series.

◈

Bids for "Inch" Lines Have Been Rejected

ALL BIDS RECEIVED to date for the purchase of the "Big Inch" and "Little Inch" pipelines from Texas to the East Coast have been rejected by War Assets Administrator Robert M. Littlejohn, because the offers did not guarantee "a fair price" to the government. Bids from 16 corporations were opened the first of August.

The amount of the bids was not revealed, but it is known that the lines, built during the war at a cost of $143,000,000, have been appraised at $113,700,000 at present. Mr. Littlejohn believes the government should get "somewhere within shooting range of the fair evaluation."

He said any contract for sale of the pipe lines will include clauses guaranteeing that the government will retain the facilities in the event of a national emergency. Furthermore, no purchasers will be permitted to sell or operate the lines "in such a way as to preclude their military value."

He suggested it would make little difference whether the lines were to be used to transport natural gas or petroleum from Texas to the East Coast. The primary consideration, he said, would be the national defense, plus a fair monetary return to the government.

Oilfiring Larger Steam Systems

Easily-Applied Orifice Plates Often Needed for Smooth Heating

by
J. W. Schulz

EASILY-INSTALLED orifice discs, which cost but a few cents apiece, can be placed in the radiator feed valves of typical two-pipe steam heating plants. The result is of itself an immediate improvement in heating. In addition, however, and of great importance to oilheating experts, use of the orifice discs permits switching to different oilburner firing rates and control cycles with the result that the heating becomes steadier and smoother and the oil bills often are dropped by 20% to 45%. The discs may be necessary for proper, economical oilheating.

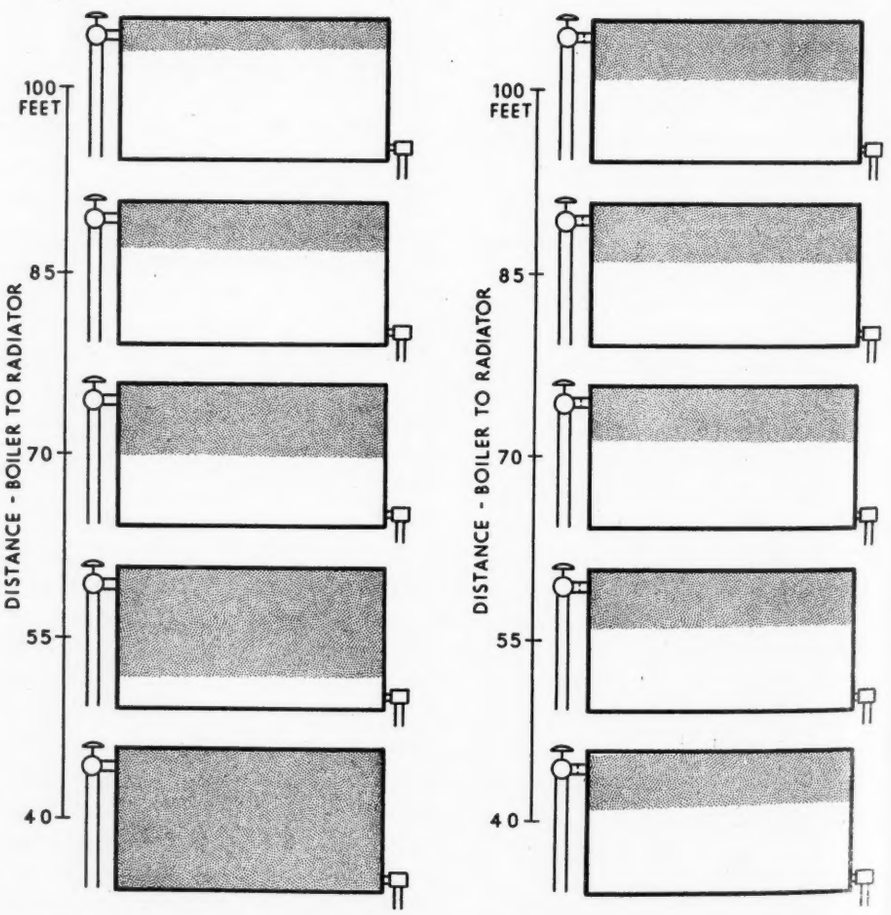
In many cities and towns the larger, finer residences, schools, institutions, public buildings, etc. have for years usually been heated by two-pipe steam plants. These are the "show-room" installations of many oilheating equipment dealers, the installations which stand out and can be named to impress sales prospects with the type of work the equipment dealer does as his best. Usually it is more than worthwhile for a dealer to concentrate now on adapting the heating plants in these buildings to oilfiring, for local prestige and unusually high profits for the engineering work involved can come of these efforts.

Some years ago a certain heating control expert learned the hard way that two-pipe steam heating plants usually do not work well with oilfiring until they have been fitted with orifices to regulate the flow of steam into the different radiators. Having an abundance of theoretical knowledge of heating but no practical knowledge, he developed a large-building heat control system based on the principle of starting the heat from the radiators when the outside temperature dropped to 65° and keeping the radiators full of steam under pressure when the outside temperature dropped to the lowest point usually expected in the particular locality. For New York, N. Y., where zero is the lowest temperature for which heating plants usually are designed, for example, this engineer's control would keep the radiators chuck-ful of steam under one or two pounds pressure on a zero day. Great fuel savings together with exceedingly smooth heating were supposed to be features of the particular large-building heat control system.

On testing out his controls in four or five large buildings, however, this engineer learned that well-designed steam heating systems usually give the buildings entirely too much heat when steam pressure is maintained on coldest days in the way he had dreamed of. With two pounds steam pressure maintained on the boilers of a large building in New York, for example, the rooms were heated to about 85° on a zero day and the fuel bills were sky-high.

"The buildings fitted with excellent steam plants seem to have about 50% to 100% more radiation than is needed to heat them in coldest weather with steam pressure maintained steadily on the boilers," complained the control engineer.

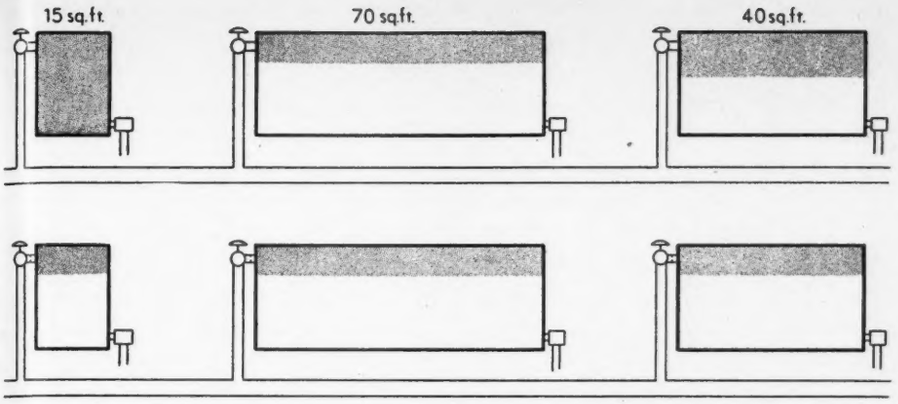
To offset this, he ordered the firing rate of the oilburner reduced greatly in a certain building, figuring on keeping the oilburner running steadily on a zero day. With 8,920 sq. ft. of radiation, the two-pipe steam plant had been fired about 28



NO ORIFICES - Unequal heating of same-size radiators close to and far from the boiler.

ORIFICES - Radiators heat properly with light firing of boiler and 15 to 30 minute "on" periods.

Diag. 1



ABOVE: NO ORIFICES - When oil burner stops, only the 15 sq.ft. radiator is 100% filled with steam.
BELOW: ORIFICES - Proper proportional steam-filling of radiators; every radiator 25% heated when oil burner stops.

Diag. 2

gph; on a zero day the oilburner, according to on-off recorder tests, had operated about 55% to 65% of the time between 6 A.M. and 7 P.M., the important hours for heating this business building. The engineer reasoned that cutting the firing rate from 28 to about 18 or 20 gph would permit running the oilburner practically continuously on a zero day, gaining great steadiness in the heating and enormous fuel savings as the result of switching from on-off firing to practically continuous firing for coldest days. The results were manifestly unsatisfactory simply because with the boiler generating half as much steam as was needed to fill the system and raise pressure on the boiler, the radiators close to the boiler room "hogged" the steam which was produced while the distant radiators received little or no steam.

"To carry out my plan of delivering steam continuously from the boiler on coldest days," the engineer moaned, "I would have to cut 40% to 50% from the size of every radiator in the building. Then the steam would distribute properly to the different radiators with the boiler generating steam continuously on a zero day, at the low rate needed to heat the building."

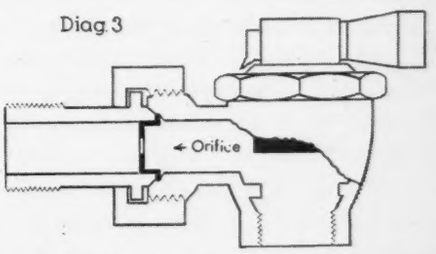
His big objection to steam radiators twice oversize was that once they were filled with steam on a zero day the steam flow had to be stopped for about an hour to avoid overheating the building. This gave one-hour "off" periods for the oilburner during coldest weather when he figured the radiators should work continuously at maximum output. Far worse to his mind, on typical winter days when the outside temperature was between 15° and 35°, the oilburner had to stay idle about two-thirds to three-quarters of the time. Firing the boiler hard enough to cause the system to distribute steam properly to the radiators in a 30-minute "on" period, the burner had long "off" periods during typical winter weather which caused efficiencies to be low and heating to be very bumpy because of the radiators chilling between "on" periods.

Of course, all this refers to the more commonly encountered types of two-pipe steam heating plants, which have no vacuum pumps or which have pumps usually set to maintain no vacuum or from five to ten inches of vacuum. It does not refer to the last word in high vacuum systems or to two-pipe steam plants painstakingly arranged for proper distribution of small amounts of steam to the different radiators.

To go on with the developments of this control engineer: When suddenly he came on the fact that specialties are available from not one but many manufacturers for throttling and regulating the flow of steam into the radiators of two-pipe steam plants, he had the answer to his problem. Certain radiator feed valves, used in two-pipe systems, are adjustable for maximum opening. They can be set easily and quickly, for example, to give only enough steam for a 25 sq. ft. or 50 sq. ft. or 75 sq. ft. radiator with one-quarter pound steam pressure on the boiler. The trouble is that in many buildings where excellent radiator feed valves of this type have been installed in two-pipe steam plants, nobody has bothered to adjust them properly. Where a two-pipe steam system is not fitted with radiator valves of this type, the steam flow into each radiator can be governed by installing an inexpensive orifice disc in the union of each radiator feed valve. The discs come with different size orifices; the proper size must be used for each radiator.

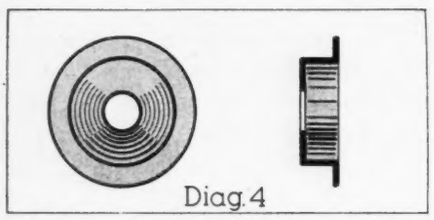
This example shows the greatest benefit to oilheating experts of installing orifices where they are needed. A certain large home fitted with an ordinary two-pipe steam heating plant needed a firing rate of 8.0 gph, for a 3,300 sq. ft. standing steam load, because at a lower rate the radiators were not heated properly during a usual oilburner "on" period of about 25 minutes. As on a 20° day about 38 gallons of oil were needed to heat this home, obviously on such a day the oilburner ran a total of only five hours. For zero days, the burner ran a maximum of seven hours a day. Idle 17 hours on zero days and with "on" periods spaced by long "off" periods even in zero weather, the burner naturally gave lower efficiencies by a good margin than would come of steadier operation. It was desirable to cut the gph rate at least in half to secure steadier operation, but at 4.0 gph the distribution of steam to the radiators was intolerably poor; only the radiators closest to the boiler room heated at all. Also, it was desirable to cut the firing rate because the stack temperature of the boiler was excessive, above 1000°F. The boiler was of about the proper size for the heat loss of the house, whereas the radiators were, as often they are, about twice as large as would give excellent, smooth, economical heating. The answer lay in installing in each radiator feed valve an orifice disc with an opening about 40% of the area which would be used if the radiators were of the proper size instead of greatly oversize.

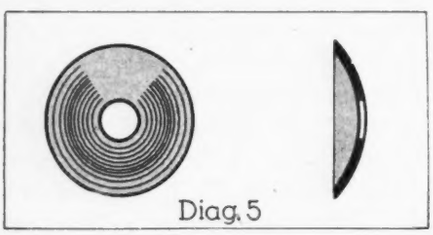
Diag. 3



Typical feed valve *with orifice disc. To install, disconnect union and spread enough to slip disc in place. One man can do 20 an hour.*

This gave precisely the same results as could have been obtained by reducing the size of every radiator in the house, excellent distribution of the steam to the radiators at a firing rate as low as 3.0 gph instead of 8.0 gph. The reason 3.0 gph was





Front and side views of typical discs. Upper disc is for particular make of feed valve. Lower disc, clamped in any union will fit many makes of valves.

used instead of the 4.0 gph mentioned earlier is that with the steadier firing more heat was obtained from the boiler at 3.0 gph than the most optimistic reasoning had led to be expected from 4.0 gph. The stack temperature was sliced considerably. The radiator traps stayed cool, eliminating troubles of steam in the return system which had been experienced earlier because of live steam flowing through defective traps.

To obtain orifice discs and information regarding their proper application, an oilburner dealer should first write to the manufacturer of the radiator feed valves for which the orifice discs are needed. Should that fail to provide him with what he needs, he should write to several of the well-known manufacturers of specialties for two-pipe steam heating plants. Invariably this obtains orifice discs which will fit the particular radiator feed valves.

Experience in applying the orifice discs and studies made with on-off recorders and room temperature recorders are the best teachers regarding the finer points of using the orifice plates. Using his best judgment in a building which has radiators entirely oversize, a dealer may decide to multiply the size of each radiator by 35%, 50%, or 65%, for example, then install an orifice disc of capacity based on the answer. One heating engineer says he installs orifice discs "on the basis of heating the radiators so that they deliver about 50% or 60% of their rated output with one-half pound steam pressure on the boiler." When it is pointed out that the orifices sometimes make a hissing sound while there is a relatively high pressure drop across them, this engineer points out that usually the controls stop the oilburner before the hissing occurs. Another heating expert buys orifice plates which have no holes in them. He has the holes drilled on the installations according to some secret schedule he has worked out for himself.

The advantages of installing the orifice discs in steam plants which need them include all-told:

First and most important to oilheating

experts, where radiators are considerably oversize, the curse of the over-radiation can be removed simply in the manner which has been described. Often a much lower firing rate than previously gave good steam distribution can be used after the orificing job has been done. Equipment dealers who specialize in saving fuel on large installations by installing fireboxes, draft, regulators, large-building heat controls, etc. will find that before figuring the firing rate to be used on a renovated installations the possibility of using orifices and a greatly reduced rate should be checked. Using the lower gph rate which often can be used after the orifices are installed gives higher efficiencies as a result of steadier firing and a greatly reduced stack temperature.

Second, the use of the orifice discs gives proper heating of radiators close to and far from the boiler, in the manner indicated in Diag. 1. Especially when the orifices are exceptionally small for the size of the radiators and when the ends of the steam mains are trapped or air-vented properly in some way, the first steam given by the boiler races to the ends of the steam mains.

Third, proper proportional steam-filling of different size radiators is obtained as Diag. 2 indicates. To realize the benefit of this, imagine that each of the three radiators in the upper part of Diag. 3 heats a different room, and that without orifices steam flows into each radiator at the same rate. If the room thermostat were in the room heated by the 15 sq. ft. radiator, the other two rooms would be very cold when the thermostat stopped the burner. With the room thermostat in the room heated by the 70 sq. ft. radiator, the room with the 15 sq. ft. radiator would be hopelessly overheated.

Fourth, switching to different size orifices permits tuning the system so that every room is heated to precisely the desired temperature even though every radiator is not of precisely the proper size. Complaints from tenants of large buildings can be ended by obtaining extra heat from radiators undersize compared to other radiators in the building. Waste of heat caused previously by overheating halls and other spaces can be eliminated. For the first time, the owner can be told that every radiator in the building can be

made to give out exactly the amount of heat needed to heat every room to the temperature he desires, and no more heat than

(*Continued on page 115*)

Sherwood

Gray

Minner

Matheson

Fox

A. P. I. on Oilheating Panel

Annual Meeting Hears Five-Man Discourse at Marketing Session

AT THE 26TH ANNUAL Meeting of the American Petroleum Institute, held November 11-14 at Chicago's Hotel Stevens, a five-man panel discussion on fueloils and oilheating was the principal feature of the Marketing Division's group session. Five current industry problems were assigned to the same number of men, each of whom read a prepared paper, after which the meeting was open for questions on the topics discussed. The five papers are reproduced here in full text. The questions and their answers, a real highspot of the meeting, have been omitted due to space limitations. They will appear in a subsequent issue.

The five man panel was composed of J. L. Minner, fueloil division manager, Shell Oil Co., Inc., New York, W. A. Matheson, president, Oil Heat Institute and head of Williams Oil-O-Matic, L. B. Fox, fueloil division manager, Socony-Vacuum Oil Co., New York, John R. Sherwood, vice-president and general manager, Sherwood Bros., Baltimore, and Robert Gray, FUELOIL & OIL HEAT, New York, who also was moderator of the session. Eric V. Weber, president of Eureka Oil Co., Cincinnati, and chairman of API's Marketing Division, presided at the group session.

The five topics discussed, in the order of their presentation, were Industry Expansion, Industry Promotion, Fueloil Specifications, Gas Competition, and Fueloil Branding. The papers follow:

Gray on Oilheating Expansion

THE MEN OF THIS discussion group are glad that you have asked us to take part in your meeting, because this pretty clearly shows to the oilheating industry that the American Petroleum Institute is interested in its problems. This interest has been accelerated by the revival of your Marketing division, for you have had fueloil discussions at all three of your 1946 meetings, the one down at Atlanta, then at Denver and now at Chicago.

You can understand what this growing recognition means to these men on the platform. For many years they have believed that one day fueloil would be known as a leading product in the petroleum economy, not only in bulk volume, but also in profits and in public relations value. Now they see that their first love has been seated in the brass hat department.

You also understand what is meant in calling distillate fuel a leading product. Its volume today is only a third that of motor fuel, but its annual rate of growth is much faster. In your Institute book, "Petroleum Facts and Figures," you show that for the five years ending with 1940 gasoline sales rose an average of 7% a year, while distillate fuel sales rose 17% a year. You will agree, I believe, that in five postwar years the comparative rate of acceleration will be even more favorable to distillates . . . perhaps it is enough to point out that whereas only a few motor cars are now being built, oilburner installations in 1946 represent a new all-time peak, and will apparently reach our forecast of 420,000 . . . and an oilburner uses three times as many gallons in a year as a motor car.

There is almost no limit to the rate of expansion in distillate sales during the next few years if we as an industry want this business and are willing to do a reasonable selling job to get it. We can get it on a price basis just as favorable to the refiner as gasoline, in most parts of the country.

During the past year some of us have awakened to the fact that our earlier estimates of oilheating expansion, and particularly those made by the large oil companies, are all on the low side. In general, your men have predicted that we will have in use by the end of 1950 about 3¾ million domestic burners. That's too low, unless you deliberately drag your feet. Our postwar estimate at the magazine, made

back in 1944, called for 4,600,000 burners by the end of 1950, and we were too low.

As the months pass, we're discovering a lot of things that we didn't know about what people want. There have been a number of large public opinion surveys on heating fuels. I've put together seven of these to get a composite picture. The seven were sponsored by *American Home*, Curtis Publishing Company, FUELOIL & OIL HEAT, *Philadelphia Bulletin*, *Small Homes Guide*, Standard Oil Company of New Jersey and Timken-Silent Automatic. The last one mentioned was a large mail survey; the others were all interviews. Three had national coverage, with samplings of all income, age and occupational groups. One other covered only the northern half of the country; another only the Atlantic Seaboard and the others were sectional. All together, they bring a good national story.

Fuel Preferences

Of all American households, 44% want to heat with oil, 33% would prefer gas, 18% want coal and the remaining 5% want electricity or wood. They won't immediately get what they want, but the significant thing is that they have definite opinions on fuel preferences. They will switch over as money becomes available for the burner, or when their old heating plant fails, or when they get a new home.

It is easy to understand why people are deserting coal. Coal was always inconvenient and dirty, hard to control in mild weather, and now it costs about as much as the modern, clean fuels. Its cost will stay high, for labor is the controlling element . . . labor in the mine, labor in transportation, labor in the local yards and in delivery to the household bin . . . five times as much labor as is needed with oil to provide an equivalent amount of heat. So while three-fourths of all basement heating plants now burn coal, we have learned that less than a fifth of families want to burn it.

Gas has been gaining in favor. With 8% of homes now gas heated, a third of all consumers want to use it. Gas is our industry's only real competition. When all conditions are favorable, gas is a desirable fuel, yet it has some definite limitations. It can never be considered a universal fuel in the sense that oil is universal.

In the manufactured gas areas, which have our greatest concentration of population, heating with gas costs a third to a half more than oilheating.

In the natural gas regions, where the price is more modest, the very factors that make the fuel desirable also limit its growth. People say that they like gas because there is no problem of fuel supply; it comes in a pipe. Yet the size of that pipe limits the quantity available to any street or neighborhood, with the result that it is sometimes difficult to keep the customers warm in coldest weather.

Numerous cities this year have had to stop taking house heating customers, but they usually don't put on the brakes until they have already stretched their supply limit. In the past six months utilities in these 18 cities have refused to take further gas heating loads:

Detroit	Rochester
Grand Rapids	New Haven
Flint	Syracuse
Columbus	Westchester County
Cincinnati	Suffolk County
Albany	Brooklyn
Indianapolis	Newark
St. Louis	Philadelphia
Minneapolis	Buffalo

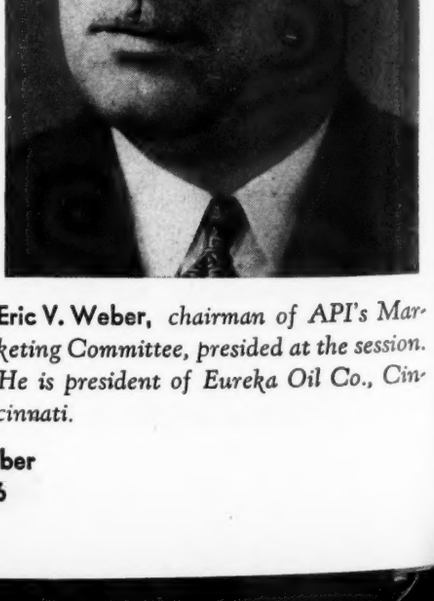
A Detroit newspaper clipping brought an amusing story some time ago . . . or it would be amusing if it were not so serious to the persons affected. Several hundred homes in the city were outfitted with gas furnaces this summer by neighborhood heating contractors, after the gas utility had stopped taking customers. These folks hadn't heard about it. Then, in a group, they sued the gas company to force it to make the connections. At the same time, the gas company was petitioning the public service authorities for permission to disconnect some of its present load, realizing that it had already gone too far.

People are also attracted to gas because of its cleanliness. Naturally it's clean . . . it contains only the light hydrocarbon fractions. It has none of the heavy ends to burn, such as we do have with fueloil. However, these light ends are highly volatile; in other words, explosive. This is a subject we normally avoid, and rightly so, but let's be realistic enough to recognize that an important number of people wouldn't heat with gas at any price . . . a little more than 30%, based on what

PEOPLE TELL WHAT THEY WANT

Thousands of families have told reporters in recent surveys what fuel they want to use. Three of the surveys were national in scope, one covered the entire northern half of the country, one the Atlantic Seaboard, and the others were more local. Combined, they present a fairly representative national picture.

SURVEY BY	*Want Coal*	*Want Gas*	*Want Oil*
American Home	13%	45%	39%
Curtis Publishing Company	24	35	30
Fueloil & Oil Heat	13	30	57
Philadelphia Bulletin	20	39	41
Small Homes Guide	21	28	37
Standard Oil Company of N. J.	20	19	56
Timken-Silent Automatic	17	38	45
Average of the Seven	18	33	44



Eric V. Weber, *chairman of API's Marketing Committee, presided at the session. He is president of Eureka Oil Co., Cincinnati.*

the families told reporters in our consumer opinion survey.

Of this group, the largest number are afraid of explosions. We all know that there are not many gas explosions, but when they do occur, they're so dramatic, so effective, for usually there's not much left but a hole in the ground. The newspapers print pictures of the hole and some of our more sensitive people are impressed. So we see that the two nicest things about gas, the constant fuel supply and the cleanliness, actually boomerang to considerably limit its growth.

Oilheating is now the leader in automatic fuels, by more than two to one. At the start of this year there were a little more than 2½ million domestic oilburners in use, representing 17% of all homes with central heating plants. With 44% wanting to burn oil, we can calculate that an additional four million families are already convinced that they want oilburners . . . they want them when their circumstances permit, or perhaps when we go and ask them to buy.

Universal Fuel

More than any other, oil can be looked on as a universal fuel. It is available everywhere, not only in population centers, but in remote villages, on the farms. We have no pipe limitations; every fueloil truck is a pipeline on wheels. In one form or another, the oil industry completely blankets the country. There is someone who could sell you heating oil wherever you may want it.

Fueloil is everywhere economical. A million Btu's in oil cost between 55¢ and 65¢ almost anywhere in the country. Gas gets down to as low as 45¢ in some Southwestern areas, but from there it ranges up to as high as $2 in the Carolinas and it's over a dollar in most cities using the manufactured variety. Coal prices also spread over a wide range, from around $5 to $16 a ton, depending upon geography and quality. Only fueloil prices are relatively uniform everywhere, and more important, they are low enough for modest budgets.

It is farthest from my desire to give you an impression that this potentially large expansion in fueloil demand is inescapable, and that it will come without any effort on our part. Obviously, the reverse is true . . . we have got to put forth real effort because gas in many areas is hot on our trail, and also because there will be a lot of competition from other industries for every consumer dollar. I think you will agree, however, that the prospect is sufficiently promising to justify exerting that effort.

At the start of this paper we mentioned profits. Throughout the history of oilheating, up until very recently, distillate fueloil was less profitable to the refiner than gasoline. This was principally because we competed with coal, and coal was dirt cheap. Coal is not now a competitor. Oilheating has won that particular battle; it no longer needs to be subsidized.

With the exception of some cities in the Midwest, where natural gas is very cheap and where freight costs on oil are high, it will never again be necessary to price distillate fuels on a less profitable basis than gasoline at the refinery level; in most places you now have them on a parity, following the increases of the past year.

As you come to fully recognize and appreciate this change in price policy, you will not again consider it necessary to limit fueloil output to favor gasoline demand . . . you will not hesitate to enlarge your refining facilities, even when the only need for this comes from rising fueloil volume, for your fueloil profit will be adequate . . . you will find yourself planning and developing more effective marketing methods for fueloil, based on penetrating analysis, for you will know you are dealing with a primary profit product.

Yes, distillate fueloils offer you an interesting future, as volume builders, as profit and good will builders, now that we're planning, as an industry, to develop the inherent possibilities of the fueloil market.

Matheson on Oilheating Promotion

A CONSENSUS OF INDUSTRY surveys —taken during the war years—indicated that more than $900 million worth of oil heating equipment would go into American homes by 1950. Conservative estimates—at the same time—pointed to a total of 4½ million domestic oil heating installations by 1950. And this is only the power burner side of the picture.

In addition, the space heating industry, with a present total of more than 2½ million installations, expects to install units at the rate of 750,000 a year or better for the first five postwar years.

More than a billion dollars worth of power burners and space heaters are going to be sold by 1950.

Each of the 4½ million power burner installations will burn an average of 2,000 gallons of fuel oil a year. Each space heater will burn an average of 650 gallons of oil a year. Counting new equipment sales, service, and fuel oil sales—oil heating will soon become a half a billion dollar a year business! Can anyone in the oil industry afford to overlook it?

At this time—with certain materials almost impossible to procure—production can't keep pace with the demand for oil heating equipment. During the first seven months of this year, manufacturers shipped 228,872 burners. Yet . . . unfilled orders for the same period totaled 824,335.

When you go into a retail store, what infuriates you more than indifference? If the clerks are holding a gabfest and the floor walker is chiefly concerned with spraying his dehydrated carnation—out of that store you go.

What about the hundreds of thousands of prospective oil heat purchasers now mulling about the Nation's market places? Manufacturers, dealers, and the dealers' retail salesmen are attentive to these prospective purchasers. But what are the refiners doing to hold automatic heating prospects in line until sufficient oil heating equipment is available? Doesn't it mean anything that the man who goes coal or gas is eliminating himself as an annual customer for about 2,000 gallons of fuel oil?

Today, oil heat is the Champ! Oil heat installations outnumber either the gas burner or stoker total by better than 2-to-1. If—however—the oil and oil heating industries are content to sit back and accept the little end of the new home market . . . then a *new* champ will be crowned . . . and *soon*.

Official Government figures show that the first 607,000 homes started under the Wyatt program are heated—52% gas, 27% coal . . . and but 21% oil!

What can we do about it? Well . . . the first thing we can do is for the oil heating industry to come up with some top

flight, inspired engineering and design oil heating equipment for the new small-homes market. From now on, Dynamic Discontent must be the order of the day wherever engineers are concerned with the continuing development of automatic oil heating equipment. Product development, designed to create oil heating equipment for the millions, is long overdue. Now the Veterans' Housing Program brings this to a head. At present prices, oil heating devices are completely shut out from the millions of new homes planned under this program. And that means shut out from the entire small home market. Because Veterans' Housing is the blueprint for housing Mr. and Mrs. Average American everywhere.

The oil heating industry—through the Oil-Heat Institute—has already accepted the engineering challenge of the small home market. The Joint Oil Heating Committee on Veterans' Housing held its first meeting on June 26. And the oil heating industry, by the way, was the first to formulate a joint industry activity.

If we do the right kind of an oil heating job—together—there can be 6,000,000 oil heating installations at the end of the first five postwar years, instead of the 5,000,000 originally estimated.

What we know about oil and oil heating is not half so important, in reaching our objectives, as what the public thinks about oil and oil heating. Public opinion must be influenced.

Can public opinion be influenced? Let me cite an example brought out in last year's coast-to-coast survey by FUELOIL & OIL HEAT magazine: (quote) "The most significant observation among midwest cities is the high regard for coal, both hand-fired and stoker-fired, in the two Chicago suburbs, Evanston and Cicero. Combining the two, 37% want coal in one form or the other, against a midwest average of 22% and a national average of 13%. One of the best markets for oil heating in earliest years, less than 28% of the families interviewed in the two suburbs think oil the best fuel, and three-fourths of these are already using it. The Chicago Coal Merchants Association has done an outstanding promotional job for a number of years. Evidence that this has been effective is seen in the answers people give as to why they prefer coal; they display much the same reasoning that the Association has put forth in its advertising." (end quote)

Coal as a fuel is being glorified in association advertising. Gas as a fuel is being glorified in association advertising. But what about oil?

Mr. and Mrs. John Q. Public think of the fuel first. That's simple logic. For instance, it is the very nature of coal—the fuel—that has lost so much ground for the stoker. And yet . . . in spite of the fact that the stoker has lost and is losing ground, the objective has never been lost sight of: "Keep 'em burning coal!"

As Dr. Samuel Johnson, the noted English writer put it: "It is not sufficiently considered that men require more often to be reminded than to be informed."

Isn't it merely good business to set oil prices with a view to permitting an association program that sells the advantages of oil as a fuel?

Dropping the price of fuel oil 1¢ per gallon, for instance, would not automatically make every automatic heating prospect an oil heat prospect. Isn't it logical, then, to assume that a 1¢ per gallon increase does not lose even a segment of the oil heating market?

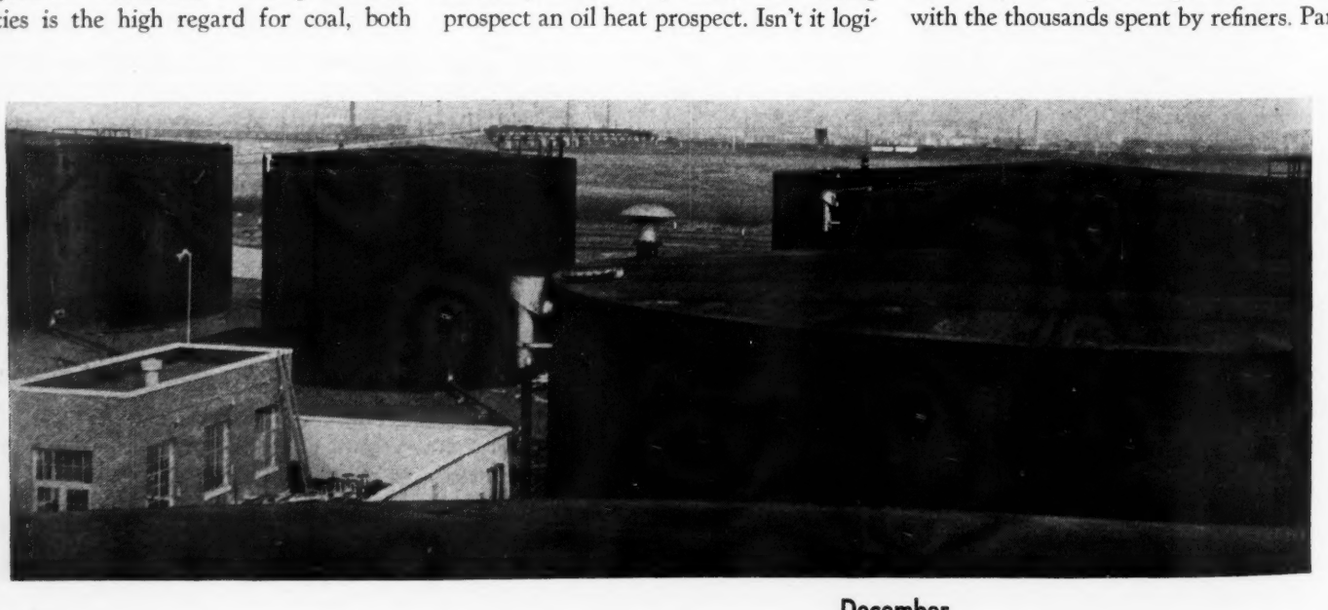
The oil burner is a specialty selling item. The very things that make it a specialty, make it something the prospective purchaser can get along without. As a result, the oil burner salesman must first of all overcome a marked amount of inertia in the mind of the prospective purchaser. Until price becomes prohibitive, price is not a major part of that inertia. There is a long price plateau in which price can rise or fall without marked effect on sales. The prohibitive price level is obvious. All of us will agree, I am sure, that an increase of 5¢ a gallon in the price of fuel oil would eliminate fuel oil from the oil heating market. But . . . the fuel oil price that permits an association activity—is the only safe price for fuel oil.

Present plans call for the construction of 12,644,000 new homes in the next ten years. If the public is exposed to an aggressive, consistent presentation of the advantages of oil as a fuel, isn't it reasonable to assume that oil would get at least an even break with gas in these homes?

In terms of oil heating equipment, this even break would mean 1,896,600 additional oil burner sales. In terms of oil, it would mean an additional 67,714,285 barrels of fuel oil a year.

What is necessary to gain the sympathy and support of the oil industry for aggressive activity at an association level?

The Oil-Heat Institute is made up primarily of manufacturers and distributors. It is somewhat less than reassuring for these manufacturers to compare the millions they have spent to promote oil heat with the thousands spent by refiners. Par-



ticularly when they see the manufacturers of gas-burning equipment relieved almost entirely of the expense of promoting gas the fuel.

While it is true that oil heating manufacturers prefer to remain in the business where their dealer outlets are already established, the fact remains that existing production facilities could be used to build anything from mechanical toys to stokers or gas equipment. Oil heating manufacturers do not want such a change. They want to remain in your corner in the battle of the fuels.

What about the man who is considering automatic heating? Theoretically, he is looking at the stoker, gas burner, and oil burner with an open mind. Only theoretically, however. Because his final decision will depend on what he thinks about coal, gas, and oil.

What, then, does our prospective purchaser think about oil and oil heating? What do the "girls" at his wife's bridge club think about oil and oil heating? And we can't discount the bridge club, the lodge meeting, the picnic, the commuters' special, the across-the-fence discussions as molders of public opinion. Such talks, such exchanges of fact and hearsay are the stuff of which public opionion is made.

When such talks turn to automatic heating, what is said about oil? Does some one speak up and say that America's oil resources will be exhausted in five, ten, or twenty years? Human nature being what it is, some one will question such a statement. But . . . what has the oil industry given its defenders to back up their contentions that the "scarcity" story is only a "scare" story? How much does the average automatic heating prospect know about the degree day delivery method, primarily an oil story? Is oil heat clean heat? You say "Yes" . . . I say "Yes." But what does the public think?

Competitive fuel associations are on the job . . . the Bituminous Coal Institute, the National Coal Association, the Anthracite Institute, and the American Gas Association. All of these active, well-financed organizations have industry-wide programs on public relations, advertising, and product research. And each of these associations is profiting by the inactivity of oil. Yet . . . which fuel has a greater stake in the future of automatic heating?

Let me repeat: The oil burner manufacturers want to stay in your corner in the battle of the fuels. They want Oil Heat to continue as the Champ. But . . . aren't they justified in expecting more substantial support from the fuel for which they battle? Isn't the future of oil heat a matter of deep, personal concern for everyone who stands to profit by that future?

The Oil-Heat Institute is ready to support any aggressive program advanced by the petroleum industry. Ahead of oil heat is a brilliant future. All of us belong in that future — actively, enthusiastically, profitably.

Minner on New Oil Specifications

As the subject implies, fuel oils manufactured from the new refining processes are different from those which heretofore have been available for heating purposes. Obviously, the real answer to this question is of a highly technical nature involving the differences in the chemical structure and the mechanisms by which the fuels are burned. In view of the limited time that has been allocated for the discussion, together with the fact that this is primarily a marketing panel, I believe it will be more interesting to you if I confine my remarks mainly to the history, and present status of the problem, and avoid in so far as possible the details of the technical aspects.

Today, we are all more or less familiar with the new processes introduced to the refining industry during the war years. One of the most important was the catalytic cracking process for producing high octane gasoline. Back in 1943, however, when cat crackers were going on stream in all parts of the U. S., primarily to produce base stock for high octane aviation gasoline, not too much was known about the quality of the other products they were turning out. Many wild rumors were afloat about the performance characteristics of the new catalytic fuel oil, but there was little or no substantiating evidence for the misleading impressions that were being created. Thus, it was natural for the oil burner manufacturers to become concerned over the possible changes in the

quality of fuel oils that might result from this new refining method. While individual refiners were already busy in their research laboratories with independent investigations of their own, not much factual data was available at the time to the industry at large. Therefore, in the interest of oil heat in the postwar period, it was deemed necessary by all parties concerned to attempt some clarification of the situation for the oil burner manufacturers by setting out the probable trends in refining, and to establish some basic facts regarding the probable quality of postwar fuel oils.

Since fuel oils are widely marketed under Commercial Standards specifications promulgated by the Bureau of Standards, joint meetings of the refiners and oil burner manufacturers were arranged by the Bureau to study the over-all problem. These meetings culminated on May 18, 1944, in some basic facts being established and certain recommendations being adopted, the most important of which to my way of thinking were as follows:

BASIC FACTS

1. "The trend toward higher octane gasoline, and wider use of the catalytic cracking process, tends to produce lower API gravity distillate fuels for the same distillation range and residual fuel oils of different gravity-viscosity relationships than have previously been available.

2. "The petroleum industry wants to serve heating needs and recognizes the necessity for supplying grades of oil suitable for oil heating equipment now in use. As a result of changes in refining practices, new heating needs may be served

more economically if new home heating equipment is designed to use the lower API gravity, higher heat content fuels in each distillation range, which will be available in increased proportions."

RECOMMENDATION

"The refiners recommend to the burner manufacturers, in order that oil heating may be placed on a most economic basis for the consumer, that both vaporizing and mechanical atomization burners, other than those designed to burn kerosene, be designed to burn efficiently a less volatile No. 2 than has been marketed prior to the war."

I can tell you that the basic facts and the recommendation which I have just quoted were established only after much discussion and careful consideration of all the factors involved. It will be noted that in basic fact #1, an expansion of the catalytic cracking process was forecast and attention drawn to the possible changes in the characteristics of fuel oils that would be produced. No sudden overnight change in quality was forecast. Now, in basic fact #2, the petroleum industry representatives recognized that despite changes in refining techniques they were under definite obligation to supply a satisfactory oil to owners of oil burners which had been installed previous to the new developments in refining. This obligation was all-inclusive, irrespective of type of burner—whether a vertical rotary wall flame, a vaporizing pot-type, or a pressure atomizing burner.

At the time of these meetings, the oil burner manufacturers were predicting a large expansion in oil heat in the postwar

TABLE I

ASTM Reference Burner Fuel Oils

	No. 1	No. 2
API Gravity	37° to 39°	27° to 29°
Flash	100° min.	110° min.
Pour	0° F. max.	10° F. max.
Car. Res. 10% bot.	0.12% max.	0.2% to 0.3%
Distillation: 10%	395-405° F.	440-460° F.
50	(approx. mid-way between 10% and 90%)	
90	—	590-610° F.
E. P.	590-600° F.	675° F. max.
Composition:	75% cat. crkd. 25% St. run	100% cat. crkd.

Present Distillate Fuels—CS12-40

TABLE II

GRADE (B)	Flash Point, °F. Min.	Flash Point, °F. Max.	Pour Point, °F. Max.	Water & Sed., % Max.	Carbon Residue Max.	Distillation Temp., F. 10% Point Max.	Distillation Temp., F. 90% Point Max.	Distillation Temp., F. 90% Point Min.	Distillation Temp., F. End Point Max.	Viscosity Sayb. Univ. At 100° F. Max.	Viscosity Kinem. At 100° F. Max.	Gravity °API Min.	Corrosion Copper Strip 3 Hrs. At 122° F.
No. 1 Fuel oil A distillate oil for use in burners requiring a volatile fuel	100 or legal	165	0	Trace	0.05(D) on 10% Resid.	410			560(E)				
No. 2 Fuel oil A distillate oil for use in burners requiring a moderately volatile fuel	110 or legal	190	10(C)	0.05	0.25(F) on 10% Resid.	440	600						
No. 3 Fuel oil A distillate oil for use in burners requiring a low viscosity fuel	110 or legal	230	20(C)	0.10	0.15 straight		675	600(G)					

Proposed Distillate Fuels

GRADE (B)													
No. 1 Fuel oil A distillate oil suitable for vaporizing pot type burners	100 or legal		0	Trace	0.10 on 10% Resid.	420			625		2.4(J)	36.0	Pass
No. 2 Fuel oil A distillate oil for general purpose domestic heating	100 or legal		20(C)	0.10	0.40(F) on 10% Resid.	460(K)	675			45		28.0	

Delete present Grade No. 3

Present Footnotes

(A) Recognizing the necessity for low sulphur fuel oils used in connection with heat-treatment, non-ferrous metal, glass and ceramic furnaces and other special uses, a sulphur requirement may be specified in accordance with the following table:

Grade of Fuel Oil	Sulphur, Max. %
No. 1	0.5
No. 2	0.5
No. 3	0.75
No. 5	No Limit
No. 6	No Limit

Other sulphur limits may be specified only by mutual agreement between the buyer and seller.

(B) It is the intent of these classifications that failure to meet any requirement of a given grade does not automatically place an oil in the next lower grade unless in fact it meets all requirements of the lower grade.

(C) Lower or higher pour points may be specified whenever required by conditions of storage or use. However, these specifications shall not require a pour point lower than 0° F. under any conditions.

(D) For use in other than sleeve type blue flame burners carbon residue on 10% residuum may be increased to a maximum of 0.12%. This limit may be specified by mutual agreement between the buyer and seller.

(E) The maximum end point may be increased to 590° F. when used in burners other than sleeve type blue flame burners.

(F) To meet certain burner requirements the carbon residue limit may be reduced to 0.15% on 10% residuum.

(G) The maximum distillation temperature of 600° F. for 90% may be waived if A.P.I. gravity is 26 or lower.

(H) (Does not apply to distillate fuels).

Proposed Footnotes

(A) Delete No. 3 grade and change sulphur maximum for No. 2 fuel oil from 0.50% to 0.75%.

(B) No change from CS12-40.

(C) No change from CS12-40.

(D) Delete note entirely.

(E) Delete note entirely.

(F) No change from CS12-40.

(G) Delete note entirely.

(J) For use in burners of the gravity feed type requiring fuel of uniform viscosity, a lower limit of 1.5 kinematic viscosity may also be specified.

(K) The 10% point may be specified at 440° F. maximum when this fuel is to be used in burners requiring a somewhat higher volatility fuel.

years, and the petroleum industry representatives at the Conference felt obligated to these manufacturers to point out that with the expansion of catalytic cracking and resulting changes in the fuel oil characteristics, postwar oil burners should be designed to utilize the type of fuel oil which, of necessity, would be produced in ever increasing volume. In other words, the petroleum industry representatives were saying to the oil burner manufacturers: "Cooperation is essential in order for the two industries to realize the fullest advantage of the large potential oil heat market which we foresee in the postwar period. We will supply a product of satisfactory quality for the oil burners now operating in millions of homes. Furthermore, we can assure all your new potential customers of an ample supply of fuel oil, and the sale of your new equipment will not in any way be restricted because of a lack of supply. But, if the optimum results are to be achieved, you should design your postwar equipment to handle the new type of postwar fuels, thereby avoiding any possible restrictions on available supplies."

Not Enough Straight Run

It was apparent to the refiners at that time that if the large expansion in sales materialized in burners of the prewar type, it would be difficult if not impossible to supply fuel oils of prewar composition and still fill the expanding demand for other petroleum products; and in the case of vaporizing pot-type burners, there would be a definite shortage of straight run products to supply the large increase in demand.

The trend in refining as predicted by the Conference back in 1944 is now a reality; furthermore, the use of the cat cracking processes continues to expand. It follows, therefore, that the recommendation as mentioned above was fundamentally sound.

Since representation on Technical Committee E of ASTM D-2 Committee on Petroleum Products is divided among oil burner manufacturers, refiners and consumers, this was considered the most logical group to undertake the determination of factual data necessary to the revision of C. S. fuel oil specifications in keeping with the changes in refining techniques. Time is too short to give you any real conception of the volume of work that this Committee has carried on since August of 1944 in order to obtain the desired facts. I would like, however, to point out that never before in the history of oil heating have the oil burner manufacturers and refiners joined together in such an extensive undertaking. They tackled the job with real vigor, everyone having in mind that in the postwar years oil heating

had to be on the most economical basis to the consumer in order to be competitive with gas. Briefly, the following work was accomplished:

(1) A forecast of the quality of fuel oils which would be available for general use in the postwar years.

(2) Establishment of specifications for prototype fuels for actual testing in the various types of burners. (Table I Attachment)

(3) Formulation of burner testing procedure for the various laboratories engaged in the program.

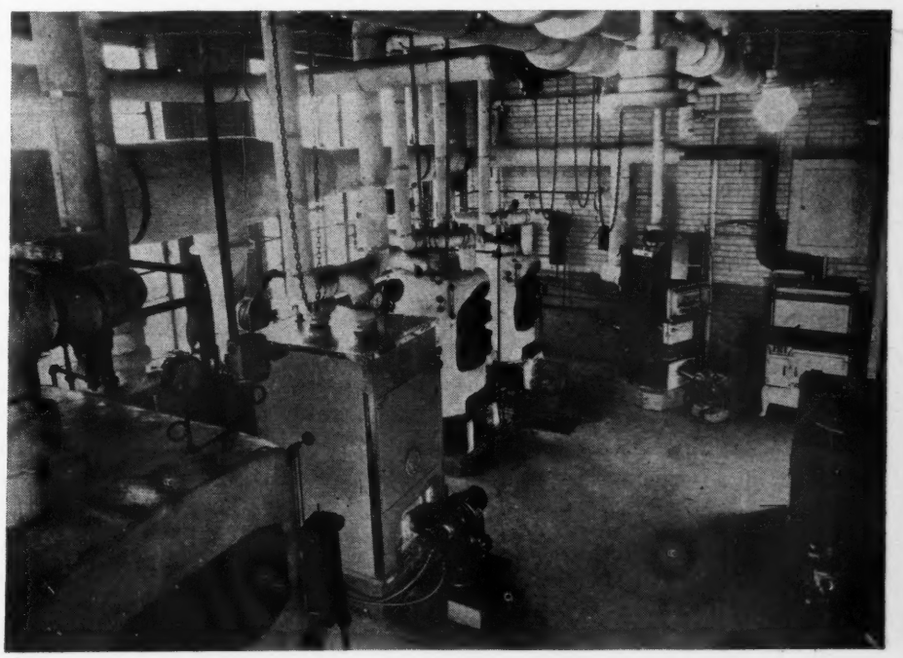
(4) Actual burning of these oils under a wide variety of operating conditions.

(5) Tabulation of all the data.

(6) Interpretation of the data as a basis for revision of specifications.

More than 30 laboratories engaged in this program. All types of oil burners were tested. Factual data has been obtained, the wild rumors regarding the new cat cracked fuels have been dispelled, and on the basis of these findings, the Committee now has under consideration definite recommendations from the working groups for revisions in domestic fuel oil classifications. These revisions should adequately take care of existing burners as well as those of the future which in all probability will be of greatly improved design.

In addition to kerosene, which is still required for use in sleeve-type and wick burners, the recommendations provide for the establishment of two grades of fuel oil for domestic heating to replace the present Commercial Standards' Nos. 1, 2 and 3 fuel oils. (Table II Attachment.) One grade (the lighter of the two) would be intended primarily for use in vaporizing pot-type and the more critical wall-flame burner installations, while the heavier grade would be suitable for use in the less critical wall-flame and high and low pressure atomizing burners. A maximum Conradson carbon residue of 0.10% on the 10% bottoms and minimum API gravity of 36.0 have been suggested for the new No. 1 fuel, while the end-point would be raised to 625° F., and the maximum flash point of 165° F. eliminated. As additional requirements, a maximum viscosity of 2.4



centistokes at 100° F., and the ability to pass a copper strip test of three hours at 122° F. have been suggested.

The specifications for the fuel oil which would replace present Commercial Standards' Nos. 2 and 3 fuel oils represent a compromise between these two grades. These specifications include a maximum carbon residue of 0.40% on the 10% residue, maximum 0.10% B. S. & W., and maximum distillation temperatures of 460° F. and 675° F. for the 10% and 90% cuts, respectively. Added requirements would be a minimum API gravity of 28.0 and a maximum viscosity (Saybolt Universal) of 45 seconds at 100° F. The minimum flash point would be reduced to 100° F. or legal, and the maximum flash point requirement eliminated.

In drawing up these proposals, the Committee has taken the viewpoint that the specifications should not be restrictive in the sense that acceptable oils are barred by failure to meet the specifications. Accordingly, kerosene and range oil in general meet the specifications for the No. 1 fuel oil and could be supplied as such where facilities do not exist for handling both kerosene and No. 1 fuel oil. The proposed minimum API gravity limits would classify the fuels with regard to carbon-hydrogen ratio which, together with volatility, affects the fuel performance in many burners, but would not be restrictive of supply. The classifications neither specify nor imply a ceiling on quality, thus assuring complete freedom for the play of competitive forces in determining actual quality delivered to the consumer.

The full report of the Subcommittee has been submitted to the membership of Section III, Technical Committee E, Committee D-2 of the ASTM and mixed comments as have been received on the proposals have in general been favorable. The proposed specifications, however, have not yet been adopted.

I have endeavored to show the changes in fuel oil specifications that are now being considered. As previously stated, the trend is away from restrictive requirements with specifications tending to define border line fuel oils. The specifications allow the inclusion of highly aromatic stocks (i.e., catalytically cracked materials) but at the same time cover the properties of straight run and blends of straight run and thermally cracked fuel oils. Thus, the greatest possible supply of distillate fuel oils is assured, with quality permitted to seek its own level under the forces of competition and domestic burner requirements.

In short, the two new grades, plus kerosene, should adequately meet the requirements of all types of burners now in use, as well as those of improved design to come along in the future. Under this setup, marginal burners in any one classification would have the choice of going to the next lighter grade, in cases where the fuel originally intended for use does not give entire satisfaction.

With the fine spirit of cooperation that has been demonstrated in carrying out this entire program, there is little doubt in my mind but that a completely satisfactory solution will be reached in due course.

Sherwood on Gas Competition

I HAVE BEEN ASSIGNED the task of discussing gas competition with oil heating. This is a problem of putting a textbook into ten minutes. I'll do my best.

From what I gather from recent trade articles, and, from around the trade, and, from what I know of my own backyard situation, this is currently a very important subject, and I am afraid I am not in a position to discuss it from a very broad territorial background of experience. However, our little Company has had a number of years of experience in the Baltimore market, so, with your permission, I will address my remarks to that particular situation, believing that, perhaps, at least as to the fundamentals, it is typical of other markets throughout the country.

First of all, let us be entirely realistic about this gas competition. In order to analyze it in a coldblooded way, let's take the actual competitive problem that exists.

Taking the conversion situation, we find that a typical house in Baltimore consumes about 1275 gallons of fuel oil in our typical year of 4,500 degree days. An oil burner installation, gun type, today, in Baltimore costs about $300.00. If we amortize this cost over fifteen years, and, based on our records, that is a very conservative expectancy of life, we find that the annual amortization charges amount to $20.00 per year. Electricity to operate the burner should cost about $7.50 per year. One overhaul at $5.00 and one service call at $2.50, or, three service calls at $2.50, should cost $7.50 per year. Then we have the cost of fuel oil at the current price of 8.6¢ per gallon, resulting in a fuel cost per year of $109.65. Total cost $144.10.

Now, comparing this with a gas installation, we find that the gas conversion equipment costs about $235.00 to install. Amortization over fifteen years amounts to $15.67 per year. Electricity for the program motor costs about $2.00 per year. The Gas Company renders free service, —no cost. As to fuel cost, assuming that this house is equipped with a gas range and gas hot water heater, we find that in a 4,500 degree day year this typical house would consume 297,500 cubic feet of 500 B.T.U. gas, costing $149.00, based on the calculated formula rate of 50¢ per cubic foot in Baltimore. Total cost $166.67.

Now adding all of these things up, we find that there is a cost advantage of $22.57 per year in favor of oil. I think we can assume that oil has a potential annual cost advantage over gas.

But that is, frankly, where our advantage stops. Gas has the following advantages over oil:

Gas operations generally do not make as much noise as the average gun burner installation.

Gas generally has the advantage in creating less dirt and soot.

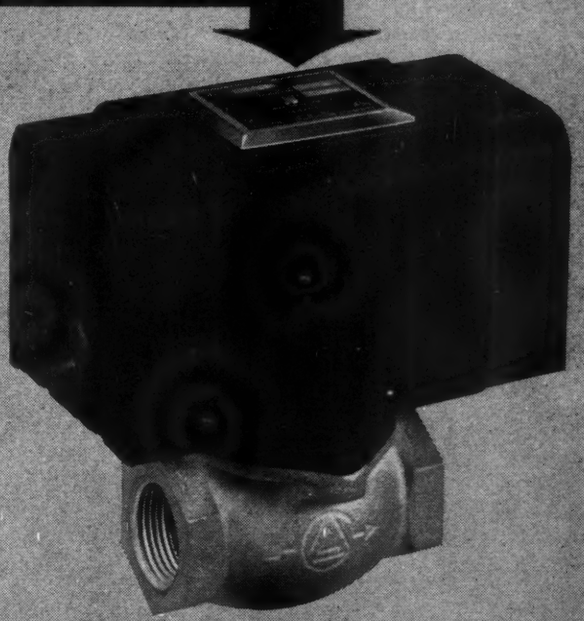
Gas is generally entirely fully auto-

Simpler, better controls for gas burning equipment

"DETROIT" V-570 GAS VALVE WITH EXCLUSIVE STEP OPENING FEATURE

Snap action partial opening on initial operation provides quiet ignition. After about ten seconds to establish draft, the valve opens gradually to full gas flow, eliminating noise and surging. No click or hum—operation of valve is quiet. Closing is positive, valve closes gradually to step position, then snaps off. This step operation is an exclusive "Detroit" feature. Operated by a low voltage heat motor. Installation and wiring are easy. Design simple, exceptionally sturdy, and durable. Valve is easily opened for cleaning, without breaking pipe connections.

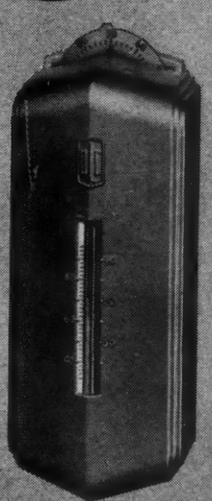
This valve has given highest satisfaction on thousands of installations—and its cost is moderate.



"DETROIT" NO. 411 CH THERMOSTAT

Heat compensation feature provides accurately leveled temperature control, eliminating costly overheating—minimizing "cold 70". Heating cycle easily varied to suit conditions of each installation by means of a patented adjustable compensating heater.

Also available without heat compensation.



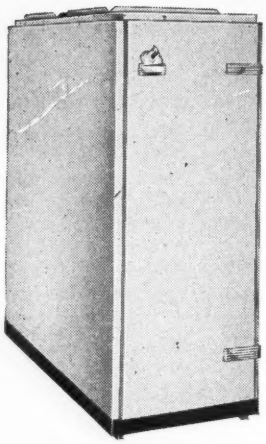
DETROIT LUBRICATOR COMPANY *General Offices:* 5900 TRUMBULL AVENUE DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

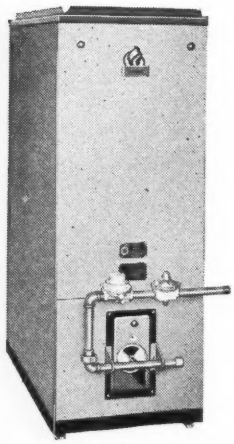
"DETROIT"

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Safety Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators



Series A
Gas-Fired, Steel
Air Conditioning Unit

Luxaire's GAS FIRED UNITS *Open the door for* AUTOMATIC HEATING EQUIPMENT *Sales!*

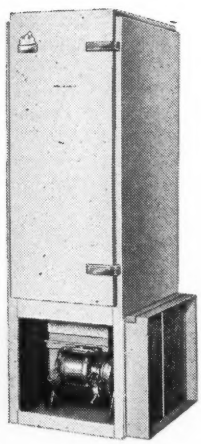


Series G
Gas-Fired, Steel
Gravity Furnace

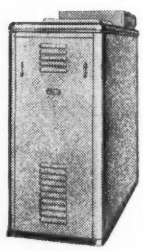
From top to bottom—inside and out—Luxaire's revolutionary line has features which make Luxaire easy to sell but hard to sell against.

Distinctive in style—advanced in design and construction—efficient in operation—with eye-appeal and buy-appeal—Luxaire has also passed the latest stringent requirements of the A.G.A.

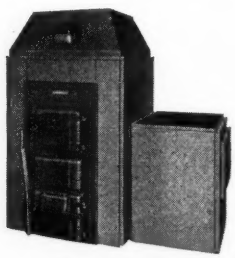
For your share of the heating market business, team up with Luxaire.



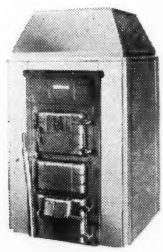
Series H
Gas-Fired, Utility Steel
Air-Conditioning Unit



Series 8000
Oil-Fired, Steel
Air Conditioning Unit



Series AC-700
Coal-Fired, Steel
Air Conditioning Unit



Series 700
Coal-Fired, Steel
Gravity Furnace

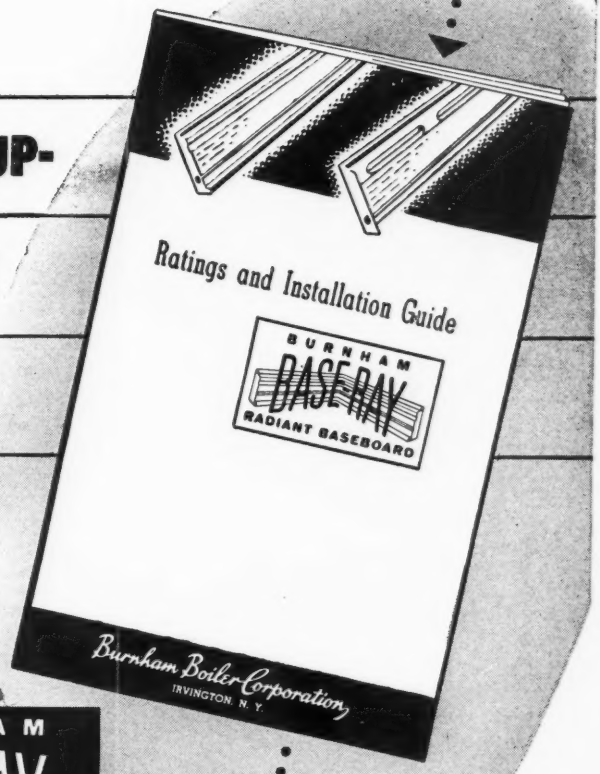
Series C
Coal-Fired, Cast
Gravity Furnace

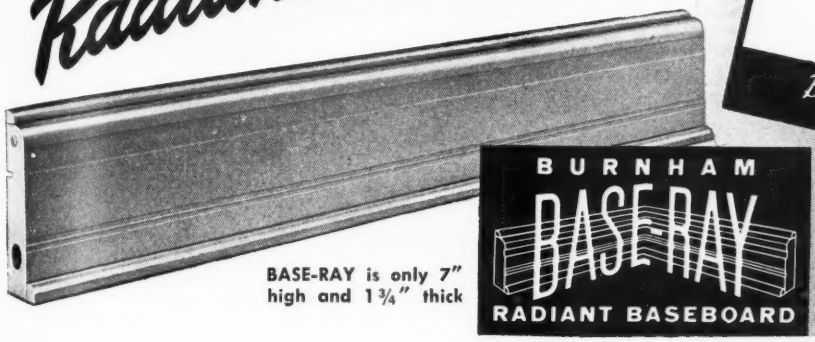
THE C. A. OLSEN MFG. CO. - ELYRIA, OHIO

Luxaire HEATING & AIR CONDITIONING UNITS

THIS BOOKLET

GIVES HEATING CONTRACTORS UP-TO-DATE INFORMATION ON THE LATEST DEVELOPMENTS IN *Radiant Heating*

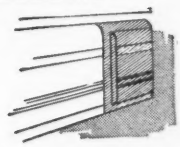




BASE-RAY is only 7" high and 1¾" thick

Radiant baseboard heating has been developed to a point of efficiency and utility that makes it a "must" for the truly modern home. BASE-RAY* *radiant* heating gives heating contractors a fresh and stimulating approach to the problem of up-to-the-minute home heating and BASE-RAY *radiant* baseboard units literally "clear the decks" for room designs that provide the utmost in charm and comfort. From the practical standpoint BASE-RAY units are so simple to install and so low in cost that you'll recognize in them an important contribution to home planning. National advertising of BASE-RAY is creating tremendous enthusiasm among householders and prospective home builders. Why not get all the facts... put yourself in a position to benefit from this public approval? Mail the coupon NOW... you will profit by the information contained in our booklet.

*Reg. U. S. Pat. Off.



CONCEALED VALVES

This neat metal enclosure, shaped like the heating unit itself, is attached to each end of BASE-RAY, thus completely concealing all valves and fittings.

Don't miss

BASE-RAY at the A.S.H.&V.E. Show

Cleveland

Jan. 27 to Jan. 31st

Booth No. 122

Burnham Boiler Corporation

IRVINGTON, N. Y., Dept. FO126

Member of Institute of Boiler and Radiator Manufacturers.

Burnham RADIANT HEATING SINCE 1873

Burnham Boiler Corporation Dept. FO126
Irvington, New York

Please send me copy of "Ratings and Installation Guide on BASE-RAY Radiant Baseboards".

Name.....

Address.....

City..... State.....

fuelfoil & oil heat

Manufacturers Activities

Jas. P. Marsh Plans New Factory and Offices

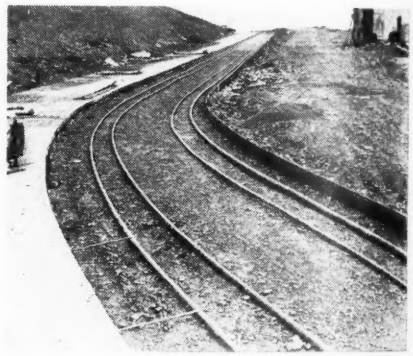
CONSTRUCTION OF A NEW FACTORY and office building is planned by Jas. P. Marsh Co., according to an announcement by Barrett Scudder, president. The new building, covering an area of 100,000 sq. ft., one story concrete and steel construction, will be erected on a five-acre site located in the Chicago suburb of Skokie, Ill. It is planned to use the new building itself as a "guinea pig" for extensive research in heating methods. Prime reason for the construction of the new building is to gather under one roof all departments and divisions of factory and office.

Silent Sioux Adds to Plant

TWO NEW WINGS have been completed at the Orange City, Iowa, plant of the Silent Sioux Oil Burner Corporation, manufacturer of oilburning space heaters. Construction was started last spring, and the company recently has moved into the new wings, which have been equipped with the most modern production machinery available. Employment figures continue to show considerable gain over prewar levels, according to officials.

Heating Pipes To Melt Snow

SLOPING DOWN THE SIDE of a hill from a main thoroughfare into the Bridgeville, Pa., plant of American Cynamid Co., a two-lane driveway 600 feet long has been constructed with wrought iron heating pipes embedded in the pavement. Hot water flowing through the pipes is expected to keep the driveway free from



ice and snow this winter. Two runs of pipe, furnished by A. M. Byers Co., are installed under each wheel track of the roadway.

Monogram In New Home

MONOGRAM COMBUSTION CHAMBER CO., Philadelphia 4, Pa., manufacturers of Lite-Cast combustion chambers for domestic oilburners, are located at a new address, 731 North 35th St. Additional floor space, new equipment and a larger organization have been established.

R & I Plans Expansion

TEN MORE ACRES have been purchased by Refractory & Insulation Corp., adjoining the company's plant at Port Kennedy, Pa. Two more factory buildings are planned for the site. This makes 16 acres occupied by the plant on the main line of the Reading railroad. Closely allied interests also purchased 29 acres adjoining the plant.

Heil Idea Book Plans Basement Playrooms

"IDEAS FOR PLAYROOM PLANNING," is the title of a booklet being offered by Heil Co., Milwaukee 1, Wis. Despite the fact that

WHO'S IN THE BEST SPOT TO MAKE MONEY?

The Man with the BRANDED PRODUCT!

TO THE PUBLIC, a well-established brand name means top quality —at a fair price.

Your customers know no reputable concern can afford to brand a product—advertise it nationally —and back both product and resellers—*unless that product is good!*

It's this fundamental feeling of confidence that gives brand sellers the big advantage. They have the product the public has read about, talked about and is convinced is right for them.

Resellers have this advantage in Mobilheat. The public knows its quality story—has already made it an outstanding name in fuel oil.

★ ★ ★

Mobilheat is One of America's Largest-Selling Fuel Oil Brands!

SOCONY-VACUUM OIL COMPANY, INC.

HERE IT IS!

PRACTICAL DOWN-TO-EARTH TRAINING IN—

"Heating Salesmanship"

The day is here when heating men who hope to move ahead—or even hold their ground—can no longer rely on hit-or-miss "sales talks." The more you know about modern selling, the greater *your* share of the consumer's dollar.

Many months ago, The National Radiator Company engaged the services of La Salle Extension University to develop practical down-to-earth training in heating sales. The finished job is just that!

It's written in *your* language, about *your* business—heating—and you can easily apply its fundamentals to the more successful selling of *any* product!

Salesmen old and new, contractors, plumbers, heating engineers, builders—in fact, anyone whose proposals must click—will find money-making, time-saving ideas at every step of the training.

ONLY $12.50 for the COMPLETE Training

You get the five separate assignments, attractively bound for permanent reference. You receive, too, the individual, personalized training service of La Salle's Counselor-Instructors—as much as your work requires. All this costs you only a fraction of the real value, because The National Radiator Company has spent many thousands of dollars in underwriting the cost of developing this specialized training.

For wholesalers and wholesalers' salesmen *only,* a specially designed extra assignment is available for only a $4.00 additional fee.

ASK FOR DETAILS...*TODAY*

Call your nearest National Radiator Company office or use the coupon to bring the full story of how you can assure *your* progress to easier sales, more sales and bigger income.

Heating Division, THE NATIONAL RADIATOR COMPANY

The NATIONAL RADIATOR Company
231 Central Avenue, Johnstown, Pa.

Please send, without obligation on my part, the complete details of the New NRC-La Salle training in "Heating Salesmanship."

NAME ..... TITLE .....

COMPANY .....

STREET .....

CITY ..... ZONE ..... STATE .....

fueloil & oil heat

a 10¢ charge is made, thousands of requests have been filled for the book. It contains a collection of basement recreation rooms, made possible by the cleanliness and space saving features of automatic heating. Center pages consist of a large cross-ruled sheet on which individual room dimensions can be laid-out. A full set of scale cut-outs, picturing all types of basement or playrooms fixtures, are included for arrangements on the layout sheet. A spread pictures and describes the adaptability and features of Heil's oilfired units.

Mass Production Methods Speed Davisbilt Output

BY COMBINING THE PRODUCTION facilities of Davisbilt Products Co. and the Tank Div., Krieger Steel Sections, Inc., and through unit standardization, Davisbilt announces that it has expedited the problem of tank trailer production and expects that backlogged orders will quickly be filled. Under the leadership of "Jack" Winchester, president of Davisbilt, trailer tank production was put on a mass basis.

Results of the program were in evidence recently when the Weston Equipment Co., Weston, Conn., accepted delivery of a "Frameless" produced under the improved set-up. On hand for the occasion were officials of Davisbilt, Krieger and Weston.

Complete Airtemp Laboratory Ready for Test and Research

COMPLETION of a new Chrysler Corporation engineering laboratory at Dayton to be devoted to air conditioning, heating and refrigeration research and development, is revealed by D. W. Russell, president of the Airtemp Division of Chrysler Corporation.

The new facilities include separate rooms for testing of packaged air conditioning units, room coolers, condensing units, rating of large and small compressors, and a room for testing the various types of heating equipment.

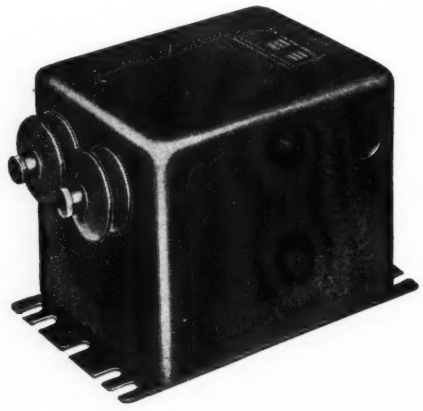
Also included are facilities for the construction of all types of working models of the various types of refrigeration, air conditioning and heating equipment. In this department, engineers completed test models of the new "sealed radial compressor" which will be put into production as fast as materials and supplies become available in sufficient quantities.

In the heating department of the new laboratory, Chrysler Airtemp engineers check every phase of fuel combustion in order to determine the efficiency of Airtemp gas, oil, coal furnaces and stokers. The viscosity of the oils is checked and the calorific value of the heating gas recorded. flue gas samples are analyzed and temperatures recorded.

Mack Strike Ends; Operates at Loss

THE STRIKE, which caused cessation of operations in Mack Trucks, Inc. plants at Allentown, Pa., New Brunswick and Plainfield, N. J. on April 29, was terminated November 9, and work resumed in all three plants on November 11.

Operations for quarter ended September 30, resulted in a loss of $3,375,705 which, after applying estimated tax credits of $3,136,005, leaves a net loss of $239,700. For nine months ended September 30, the loss was $4,469,078, estimated tax credits of $4,152,452, leaving a net loss of $316,626. This compares with a net profit of $1,930,476 for the first nine months of 1945.



IT MEETS EVERY REQUIREMENT

Dongan Transformers are manufactured in a variety of sizes and mountings to meet all oil-burner needs. Standard types with voltages ranging from 5,000 to 14,000 volts. Scientifically designed and painstakingly built to insure dependable performance.

DONGAN ELECTRIC MFG. CO.
2981 Franklin Detroit 7, Mich.

The Dongan Line Since Nineteen-Nine

WRITE FOR LITERATURE

DONGAN TRANSFORMERS

TRIPLE REFINED

TRIPLE REFINED

TRIPLE REFINED

...that's Atlantic Furnace Oil

Atlantic Furnace Oil is a major product of this company. Atlantic pioneered research in this field. And that unending research has had a single purpose—to produce the finest possible furnace oil.

Today's users know that Atlantic Furnace Oil is reliable, burns hot, gives a clean and uniform heat. They enjoy season-round peace-of-mind.

You enjoy the very real advantages of 21 Atlantic barge and pipeline terminals placed strategically from New England all the way to Georgia.

ATLANTIC FURNACE OILS

THE ATLANTIC REFINING COMPANY

REFINERIES AT PHILADELPHIA, PENNSYLVANIA; AND ATRECO, TEXAS

Terminals at

Buffalo, N. Y.
Rochester, N. Y.
Syracuse, N. Y.
Albany, N. Y.
Elmira, N. Y.
Binghamton, N. Y.
Providence, R. I.
New Haven, Conn.
Newark, N. J.
Williamsport, Pa.
Northumberland, Pa.
Mechanicsburg, Pa.
Allentown, Pa.
Reading, Pa.
Trenton, N. J.
Philadelphia, Pa.
Wilmington, Del.
Baltimore, Md.
Richmond, Va.
Wilmington, N. C.
Brunswick, Ga.

fueloil & oil heat

More Oilburer Schools Definitely Needed

WITH OILBURNERS NOW coming through from the factories at an increasing tempo, the scarcity of good installation and service men is being felt in several parts of the country. Two large Eastern dealers, not long ago, mentioned that at last they were getting burners in carlots and could have taken care of their backlog of orders in reasonable time but for the inability to get good installation men. One man got in 500 burners and a month later was only able to put in seven a day. The other, similarly, said he had more burners in his shop than he could put in in two months unless someone could find some more men.

The larger burner factories have done yeoman service to the industry by conducting short factory courses . . . one of these will put through 1,000 men this year. But this is not enough to take care of the expanding industry and next year it is entirely probable that the number of installations will be held down, not by product shortage, but man shortage.

Here is a list of 16 schools now operating. If you know of others, please let us hear of them.

New England Technical Institute
486 Broad St., Providence 7, R. I.
Arthur L. Wales, head of O. B. Div.

Oil Heat Institute of New England
839 Beacon St., Boston, Mass.
Otto V. I. Urban, Ed. Director

New York Technical Institute
105 Fifth Ave., New York City

Brooklyn Y.M.C.A.
1115 Bedford Ave., Bklyn. 16, N. Y.

Essex County Vocational School
Hall of Records, Newark, N. J.

Dunwoody Industrial Institute
816 Wayzata Blvd., Minneapolis, Minn.

Westchester County (N. Y.) School
(Run by John Schulz)

Modern School of Mechanics
3228 Chestnut St., Philadelphia, Pa.

George Bork
10 Lexington Ave., Holyoke, Mass.
P. O. Box 823
(Runs schools for the State)

Y.M.C.A. Trade School
229 W. 66th St., New York City
Charles Burkhardt, Director

Milwaukee School of Engineering
1020 N. Broadway, Milwaukee, Wis.

Brooklyn Technical High School
29 Fort Green Place, Brooklyn, N. Y.

Industrial Training Institute
2130 Lawrence Ave., Chicago, Ill.

Rutgers University, Extension Div.,
New Brunswick, N. J.

Dobbins Vocational School
22nd & Lehigh Ave., Philadelphia, Pa.

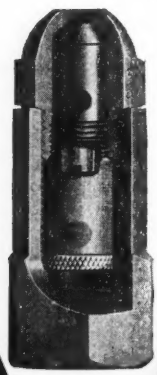
E. M. Hosman, Dir. Extension Div.
Omaha University, Omaha, Nebraska.

◈

August Schramm has been elected president and *Arthur E. Schramm*, secretary-treasurer of Renick & Mahoney, Inc., New York 6, N. Y., distributors of oil equipment.

MONARCH—FIRST CHOICE OF THE INDUSTRY!

Monarch Nozzles are still so "preferred" by most of the industry that demand far exceeds supply—even though this year we will produce well over 250% more nozzles than were needed for all the domestic burners produced in 1941! Quantity orders must be placed well in advance of required date —with continuous repeat orders to keep yourself in line for deliveries.



F-80

Air Cones & Stabilizers

Dealers: It may cost you money if you don't use Monarch stabilizing equipment in combination with Monarch Nozzles for repair work. Their use in combination is really your assurance of satisfactory performance, because every size and style has been thoroughly fire tested in laboratory or field over a period of many years. Eliminate guess work. Use tried and tested equipment.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.

Write for Catalog D

MONARCH MFG. WORKS, INC.

EAST WESTMORELAND AND SALMON STS.

PHILADELPHIA 34 PENNA.

Every OIL BURNER NEEDS A *Klemm* FUEL OIL FILTER

With CHEMISTONE, the Original Controlled Porosity Filtering Element

Check THESE ADVANTAGES:

1. **Dependable Performance**—The Klemm Filter assures steady flow of oil by eliminating foreign matter in oil, causing stoppages.
2. **Wide Range of Use** — A Klemm Filter operates efficiently with Nos. 1, 2, or 3 grade oil—meets all normal conditions.
3. **Used With Any Burner** — Filters efficiently with either pressure or gravity type burners—No change in element is necessary.
4. **Flow Capacity**—50 gallons, or more, per hour at one-foot gravity feed. Flow is proportionately larger as amount of gravity increases.
5. **Oil Tight**—Extra wide Neoprene gaskets in head provide an efficient seal between the glass bowl and compression head casting.
6. **Easy to Install** — The Klemm Filter can be readily installed on all standard models, either at burner or at the tank.

•

TERRITORIES OPEN:

REPRESENTATIVES: Ask for details of our liberal offer. Due to re-alignments, good territories are now available. Few items fill so important a need. Klemm Oil Filters sell easily—at a good profit. Write TODAY!

Liberal Discounts to Dealers

Assure your customers of *uninterrupted* heat and comfort this fall and winter. Suggest a Klemm Fuel Oil Filter as a safeguard against stoppages and emergency service calls. Your customers benefit . . . You profit on every sale. Push Klemm units NOW—as you write fuel contracts or re-condition burners. A Klemm Oil Filter stops dirt, water sediment, and other foreign matter, from clogging burners. *A steady flow of oil is assured.* Every oil-burning heating plant needs this low-cost unit. ONLY the Klemm Filter is equipped with the original, high-efficiency CHEMISTONE filtering element.

Write today for complete information—including discounts.

Klemm AUTOMOTIVE PRODUCTS COMPANY

1718 North Damen Avenue • **Chicago 47, Illinois**

EXPORT DIVISION: Guiterman Co., Inc., 35 S. William St., New York 4, N. Y.

fuel oil & oil heat

Dodge Official Sees Building up 25% in 1947

CONSTRUCTION VOLUME in the thirty-seven states east of the Rocky Mountains will increase approximately 25% over that of this year, it has been estimated by Thomas S. Holden, president of F. W. Dodge Corporation.

He indicated that 630,000 dwelling units would be built in the states east of the Rockies next year, a gain of 35% in number and 38% in dollar volume over the expected 1946 record. The residential estimates assume, he said, that the present system of priorities and allocations of materials will be out next year.

"Most construction materials will progress from sellers' markets into buyers' markets during the course of next year, and material supply will cease to be the major bottleneck," he said. "The major bottleneck will be shortage of skilled labor. While apprentice training has been stepped up, and many building trades unions have recruited new members, recruitment has not kept pace with needs in a number of important trades."

Everything needed to make a complete Combustion Chamber installation comes in *one* strong carton. Easy to handle —easy to stack.

Instead of many pieces to carry, you have one package containing an R & I Combustion Chamber, clips to hold sections together, and all the cement needed for floor, etc.

There are no loose pieces to get lost, broken or mixed.

Whether you need a round, rectangular or pear-shaped chamber, the R & I can be shaped to your requirements—and the price is low.

You can get them from your supply house. Write us for Bulletin OB-98.

REFRACTORY & INSULATION CORPORATION

116 Wall Street
Chicago 4, Ill.
Detroit 16, Mich.

New York 5, New York
Philadelphia 3, Pa.
Newark 2, N. J.

DISTRIBUTORS—*A few choice territories open. Write for particulars.*

R&I COMBUSTION CHAMBER

New York Town 100% Oilheated

THE TOWN OF LOUISVILLE, N. Y., has been reported as America's first completely oil-heated town. Located in the northernmost corner of St. Lawrence County, oil has taken on the whole heating load, and, strangely enough, the accomplishment results from the efforts of one dealer, handling equipment from a single manufacturer.

Credit for this sales achievement goes to John Pellegrino, Pellegrino Oil Heat and Appliance Co., located in nearby Massena, N. Y. He began installing Oil-O-Matic heating equipment eleven years ago and made his first installation in Louisville (pop. 150) ten years ago. The final installation, which brought the town into the 100% oilheated column, was completed in November. Every centrally-heated home, the school, church, garage and general store has an oilburner.

◈

Schmidlin Bros. Open Showroom in Toledo

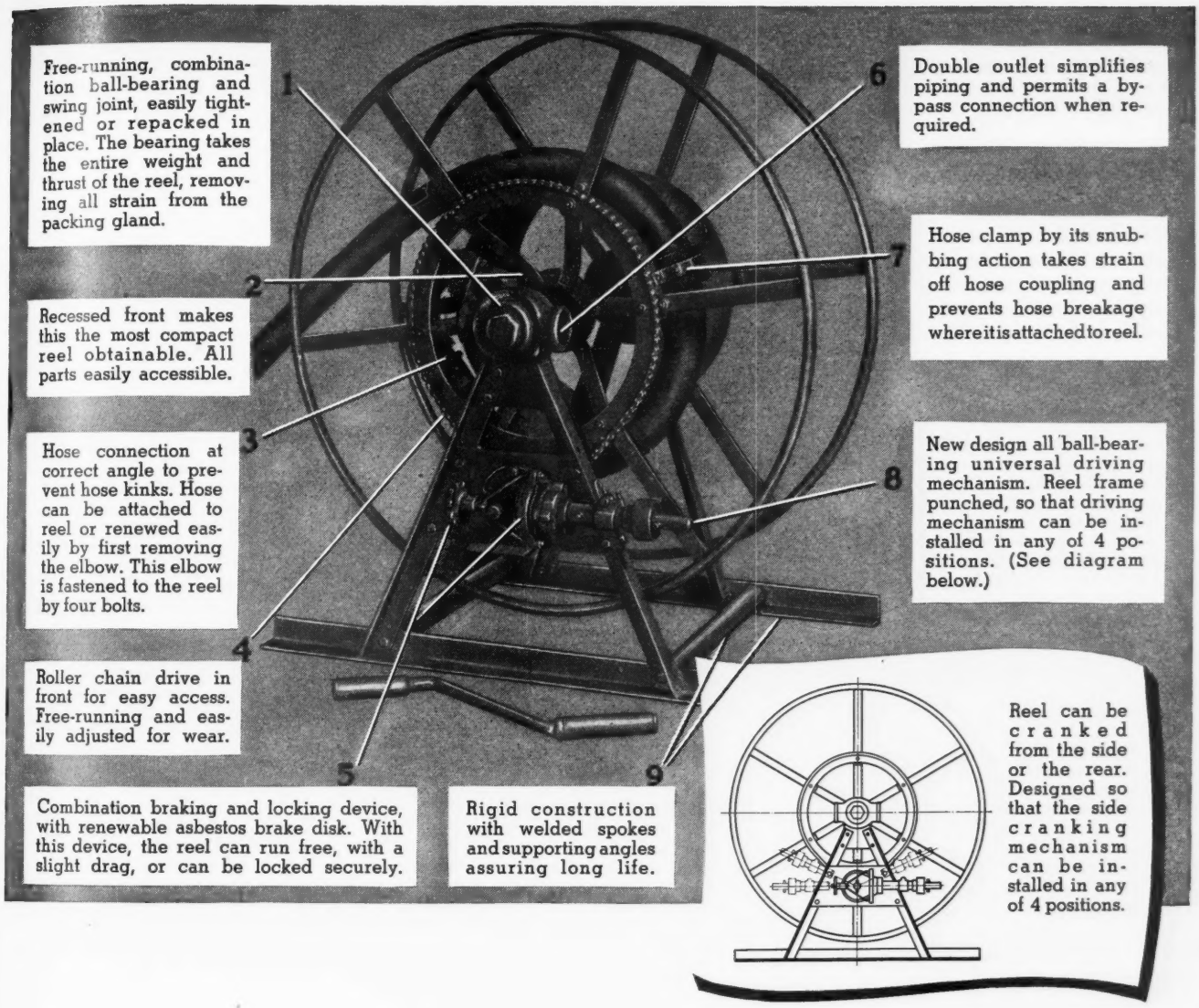
A NEW DISPLAY ROOM, office and engineering plant, completed by Schmidlin Bros. Heating Co., Toledo, Ohio, was formally opened on November 16, when the public was invited to a display of heating equipment and home insulation. The new address is Schmidlin Building, 3120 Monroe St.

Schmidlin Bros. Heating Co. is one of the more prominent oilburner dealers in Toledo and have made more than 9,000 installations since its inception in 1917.

◈

W. E. Shattuck has advanced to the position of Division Manager, Plumbing and Heating, Montgomery Ward & Co., Chicago, Ill., succeeding *I. M. Remen*, who has become director of personnel for the Merchandise Division.

Arthur E. Jacobs, well known in the rotary pump field, has been appointed vice president and sales manager, Blackmer Pump Co., Grand Rapids, Mich.,


1
Free-running, combination ball-bearing and swing joint, easily tightened or repacked in place. The bearing takes the entire weight and thrust of the reel, removing all strain from the packing gland.
2
Recessed front makes this the most compact reel obtainable. All parts easily accessible.
3
Hose connection at correct angle to prevent hose kinks. Hose can be attached to reel or renewed easily by first removing the elbow. This elbow is fastened to the reel by four bolts.
4
Roller chain drive in front for easy access. Free-running and easily adjusted for wear.
5
Combination braking and locking device, with renewable asbestos brake disk. With this device, the reel can run free, with a slight drag, or can be locked securely.
9
Rigid construction with welded spokes and supporting angles assuring long life.
6
Double outlet simplifies piping and permits a by-pass connection when required.
7
Hose clamp by its snubbing action takes strain off hose coupling and prevents hose breakage where it is attached to reel.
8
New design all ball-bearing universal driving mechanism. Reel frame punched, so that driving mechanism can be installed in any of 4 positions. (See diagram below.)
Reel can be cranked from the side or the rear. Designed so that the side cranking mechanism can be installed in any of 4 positions.

The New Hose Reel You Have Been Looking For

COMPACT, RUGGED, LIGHT IN WEIGHT, BALL-BEARING CONSTRUCTION THROUGHOUT

The New Philadelphia Valve Co. reel is the finest reel built. It is compact, rugged, and light in weight. All parts are of steel, malleable iron, or bronze; no cast iron is used. It is ball-bearing throughout with hardened and ground races. (6 ball bearings are used.) It will never wear out.

The reel can be changed from top winding to bottom winding by reversing the hose connection and rotating the drum. All working parts and hose connections are in front and easily accessible. It is light in weight, a reel that holds 100 feet of 1½" hose, weighs only 93 pounds.

We can furnish hose reels in any size or shape. They can be furnished for installation either in bucket box at rear of truck or in underslung box on side of truck. Give inside dimensions of box when writing for information. Special reels can also be furnished for Airfield Refueling Pits and Ship Docks.

Delivery can generally be made in a few days after receipt of order. For sizes, prices, and dimensions, write for Catalogue No. 165.

PHILADELPHIA VALVE COMPANY
ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA 34, PA.

Oil Marketing Equipment Company, 321-325 Fremont Street, San Francisco 5, California

AVAILABLE-4-6 WEEKS

3 CAPACITIES---800 (1-2 comp.) GAL. 1,000 (1-2-3-4 comp.) GAL. 1,200 (1-2-3-4 comp.) GAL.

Streamlined Turret Top

Standardized in design plus excellent workmanship. The *flash-fueler* series may be mounted on any 1½ ton rated chassis.

Rugged construction light weight

Contact our trained engineering dept., for estimates on any truck tank or bulk plant installations.

SURVEYS—QUOTATIONS
NO OBLIGATION

GASECO
224 Bassett St.
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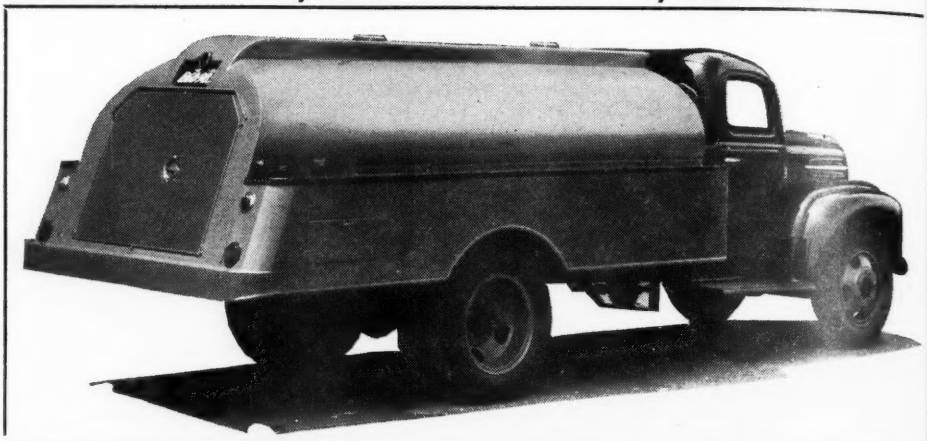
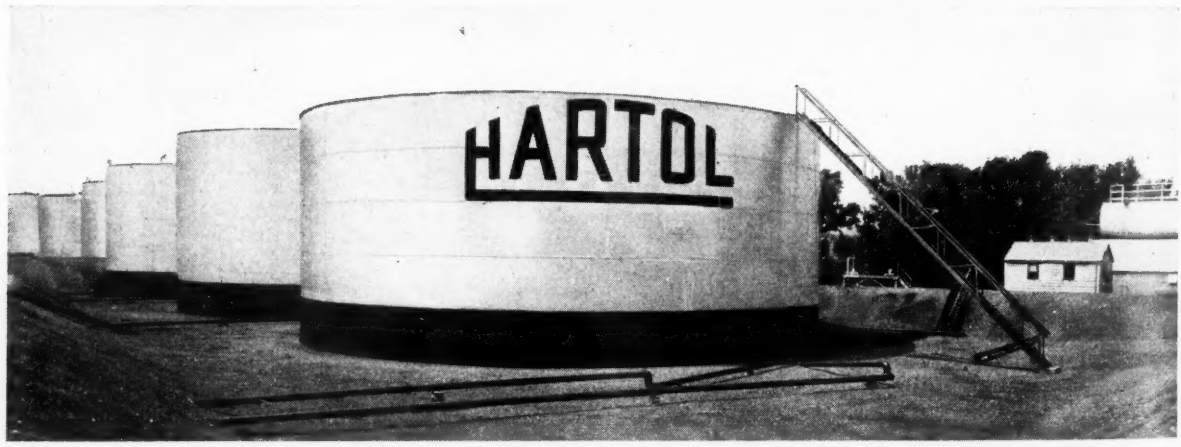
NEW HAVEN, CONN.





ONE OF OUR FUEL OIL DISTRIBUTING TERMINALS THAT GUARANTEE QUICK SERVICE

Fast loading, without undue loss of time, is the daily story at our ten terminals located at strategic points on the Eastern seaboard. That's typical of HARTOL co-operation, but not the whole story. Our stringent control over quality, plus quick, courteous service, has made HARTOL one of the largest INDEPENDENT suppliers. No retail trade is handled . . . all transactions are exclusively WHOLESALE. We invite a discussion of your business and ours.

Terminals at:

REVERE, MASS.
BALDWINSVILLE, N. Y. (SYRACUSE AREA)
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ELIZABETH, N. J.
GREEN ISLAND, N. Y. (ALBANY AREA)
PAULSBORO, N. J.
HARRISON, N. J.
JERSEY CITY, N. J.
BALTIMORE, MD.
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Shipment by barge, tank car and tank truck

HARTOL PETROLEUM CORPORATION

ROCKEFELLER CENTER, 630 FIFTH AVE., NEW YORK 20, N. Y.

MERCOID CONTROLS

TEMPERATURE ☆ PRESSURE ☆ LIQUID LEVEL ☆ ETC.

FOR AUTOMATIC HEAT CONTROL AT ITS BEST IN THE HOME ● ALSO FOR IMPORTANT INDUSTRIAL CONTROL APPLICATIONS

Mercury switches are used exclusively in all Mercoid Controls. ☆ They insure more dependable control performance, and longer control life. ☆ Write for Catalog № 600A, for complete information

THE MERCOID CORPORATION ☆ 4201 BELMONT AVE., CHICAGO, 41, ILL.

Study Radiant Baseboards In Pre-Fabricated Houses

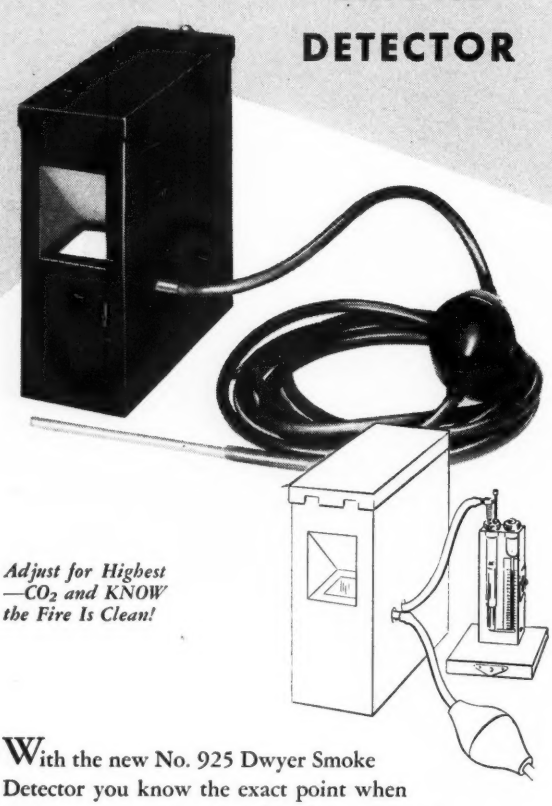
A STUDY of the performance of radiant baseboards in a prefabricated house will be made by the University of Illinois in cooperation with the Institute of Boiler and Radiator Manufacturers as part of the long-range research program which has been under way since 1940. This program provides for the study of all types of hot water and steam heating systems under varying operating conditions.

The house in which radiant baseboards will be installed is one of 50 basementless, prefabricated houses being erected by the University of Illinois to provide emergency housing for veterans and their families.

In all houses, the floor consists of a concrete slab laid over a gravel fill covered by a waterproof membrane. The finish floor will be asbestos tile.

In the test house, a gas-fired hot water heating system will be installed. There will be two heating circuits. One circuit will contain the radiant baseboards in the living rooms and kitchen. The other will contain the radiant baseboards in the bath and two bedrooms.

HERE'S THE NEW *Dwyer* SMOKE DETECTOR



Adjust for Highest —CO_2 and KNOW the Fire Is Clean!

With the new No. 925 Dwyer Smoke Detector you know the exact point when smoke and soot begin. The Dwyer Smoke Detector instantly shows the faint haze that comes before sooty smoke—permits adjustments for highest efficiency without the risk of soot.
Foolproof, simple to operate and can be connected with the CO_2 Indicator to get smoke and CO_2 readings simultaneously.

Send for Bulletin 57
F. W. DWYER MANUFACTURING COMPANY
317 SO. WESTERN AVE., CHICAGO, ILL.

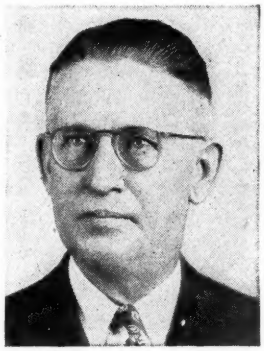
Motor Production Remains at High Level

CIVILIAN PRODUCTION ADMINISTRATION estimates put October production of fractional horsepower AC motors in October at about 1,800,000 units, or roughly the same level as August and September. This production has not brought any reduction in the backlog of unfilled orders, which totalled almost 38,000,000 on September 1, or the equivalent of 21 months' production.

Priority assistance has been given manufacturers of oilburners and warm air furnaces to get 205,000 motors, or about 8 months' production of these types of motors.

CPA also reports it has encouraged an increase in the production of all types of fractional hp. motors by extending assistance to an estimated 25 per cent of the motor industry for the procurement of materials such as magnet wire and castings.

Henry S. Pettengill has been appointed manager of the Central-Eastern Division, Wayne Home Equipment Co., Fort Wayne, Ind., according to B. G. Duer, vice president in charge of sales. Mr. Pettengil gained broad experience with the Duro Co. and Decatur Pump Co., and joined Wayne on August 1, 1946. He is conducting "Partnership Plan" sales meetings with wholesalers and dealers in his areas.



H. S. M. Burns has been named senior vice president, Shell Oil Co., in the East of Rockies territory, it is announced by Alexander Fraser, president. He has been associated with Shell for more than 21 years and, since 1935, has spent most of his time in Colombia, organizing and directing Shell's exploration and production.

Men with ideas get AHEAD!

Men get IDEAS at the Air Conditioning Exposition!

IT'S coming—the 7th International Heating and Ventilating Exposition—largest ever held and first in seven years. Here is your opportunity to familiarize yourself with the newest ideas, products, and people in the industry. It will give you the chance to "catch up" on new trends, to discuss your problems with engineering specialists at the exhibition booths, to revitalize your thinking.

The more fully informed you are on the newest and best equipment available, the more successfully you can plan efficient, economical installations. On display at the Exposition will be all types of heating, ventilating, air conditioning, and related equipment—some excitingly new, all interesting . . . all a part of the up-to-date picture you need.

A wealth of helpful information awaits architects, industrial engineers, consulting engineers, manufacturers, contractors, distributors, building owners and operators—anyone concerned with the efficient application of heat, ventilation, and conditioned air to all types of buildings—industrial, commercial, residential.

Mark the date on your calendar. It's an event you can't afford to miss!

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7th INTERNATIONAL HEATING & VENTILATING EXPOSITION

The Air Conditioning Exposition

LAKESIDE HALL, CLEVELAND, OHIO • JANUARY 27-31, 1947

Under the auspices of the American Society of Heating & Ventilating Engineers

Management of International Exposition Co., Grand Central Palace, N. Y. 17, N. Y

Fueloil & oil heat

AVAILABLE *for* IMMEDIATE DELIVERY

BENDIX FRIEZ

MICROSTAT* *by* BENDIX-FRIEZ

Yes . . . MICROSTAT — a *precision* thermostat—is available for immediate delivery!

MICROSTAT is a two-wire, bimetal actuated thermostat of the single pole, single throw, snap-acting type. A fine instrument for the close control of heating or cooling equipment. Heating type supplied with or without heat anticipator.

Manufactured by Bendix-Friez—one of America's foremost specialists in thermal controls and weather instruments—MICROSTAT is the ideal thermostat for use in low voltage control circuits. Available in Standard Bronze or Modern Ivory.

Write, wire or telephone today for further information.

FRIEZ INSTRUMENT DIVISION
Bendix Aviation Corporation
1442 Taylor Avenue
BALTIMORE 4, MARYLAND

*Trademark

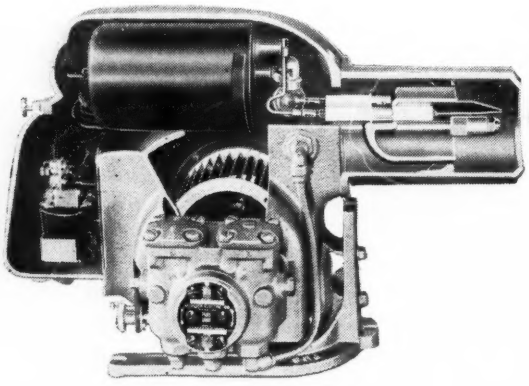
Bendix AVIATION CORPORATION

Furnace Motor Priorities

FORCED AIR FURNACES that have been installed without blower motors may be equipped with motors under provisions of Direction No. 14 to PR-33, issued by CPA, November 5. The direction provides for certification of the order by any homeowner or builder where forced warm air furnaces have been installed without blower motors, and where such a motor is necessary to make habitable a house that is occupied or is about to be occupied.

A form of certification is provided by the direction which is to be written on the order to the supplier. This certificate can be passed back to the furnace manufacturer who customarily supplies the forced air unit complete with blower and motor, and the order must be filled by the manufacturer. He is not permitted to extend the certificate to the motor manufacturer.

The certificate is applicable only to those forced air units that have been shipped without blower motors, and cannot be used to get motors for other purposes than to make the unit complete and operable.



HERCO "LONG-LIFE" CONSTRUCTION

Prevents profit-stealing service calls!

If you're a dealer that "guarantees," then it pays to sell an oil burner that's *completely* reliable. The long-life construction of a Herco assures dependable operation . . . minimizes service calls. Precision made, the main housing is rugged, one-piece, accurately machined to provide proper, permanent alignment in the mounting of the assembly. All Hercos are equipped with long-hour duty motors with thermal overload protection. With Herco, there is no stealing from your profits to make continuous . . . costly service calls.

HERCO OIL BURNER CORPORATION LANCASTER, PA.

Be sure to visit the HERCO display — Booth 18—at the 7th International Heating & Ventilating Exposition in Chicago Jan. 27-31.

HERCO
The Oil-Thrifty
OIL BURNER

Western States Representative:
Harold Winningham & Company
Main Office:
1117 Second Ave., Seattle 1, Washington

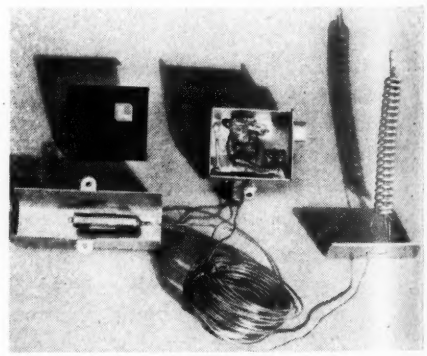
New Products

Honeywell Turns Out New Compensated Limit Control

A NEW COMPENSATED limit control for domestic heating plants was placed in production by the Minneapolis-Honeywell Regulator Company in November, John E. Haines, vice president, has announced.

A self-contained unit, the new control generates its own power to position a mercury switch through changes in outdoor and indoor temperatures. It can be used with oil, gas or stoker fired warm air heating systems.

Designated by the type number T 418, the new control consists primarily of a mercury switch instrument case and two capillary tubings and bulbs. The first of



these tubes is 20 feet long so that the bulb may be mounted outside of the house and exposed to outdoor temperatures. The second tube is ten feet long with the bulb installed in the bonnet or warm air supply of a furnace.

The new instrument anticipates changes in heat demand, Haines said, and provides control over the approximate amount of heat input into a house, thus permitting more precise control from the room thermostat.

In use, he explained, the new control goes into operation as outside temperatures fall below 65 degrees Fahrenheit. At

Rolling again!

The Mack family—the finest bunch of truck craftsmen you can find anywhere—is back on the job . . . working together again to produce the nation's outstanding trucks.

To our employees: *"Welcome back."*

To our customers: *"Thanks for waiting."*

Naturally, it will take some time to reach full-scale production again. Many materials good enough to maintain the 46-year standard of quality of Mack trucks still aren't plentiful—but our lines are moving. We'll do our level best to get new Mack trucks and parts to you as soon as possible.

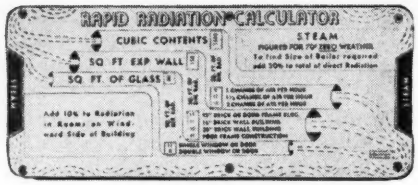
Mack MANUFACTURING CORPORATION

In behalf of its 67 Direct Factory Branches and 600 Dealers

this point the temperature in the furnace is raised according to a predetermined schedule, so that when the inside thermostat calls for heat the entire heating system will be prepared to deliver heat at approximately the right temperature to the ducts.

Radiation Calculator Speeds Heat Loss Data

RAPID RADIATION CALCULATOR has just been announced by the Smithson Co., Derby, Conn. It is a simplified sliding scale designed for use by oilburner service men and salesmen, engineers, plumbers

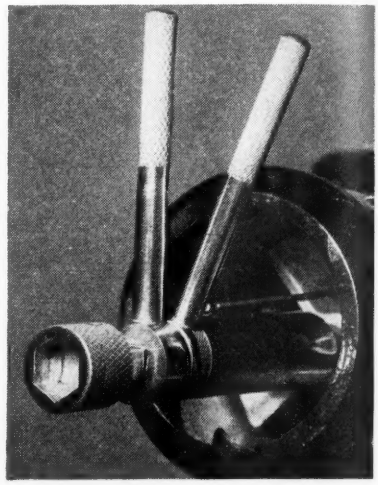


and steamfitters. It saves calculations in determining the heat requirements of any room or rooms.

This Rapid Radiation Calculator shows the amount of steam, hot water and warm air required for rooms and buildings of various types of construction. Made of Vinylite (an exceptionally durable plastic), pocket size 7" x 3", printed in three colors. Simple to understand and use, and based on engineering standards of B. T. U. heating losses.

Wrench Offered for Complete Nozzle Service

THE IDEAL NOZZLE EXTRACTOR is being marketed by Torrisi Enterprises, Lawrence, Mass., as a time-saving tool for complete service on oilburner nozzles. It is claimed that a nozzle can be removed



from a conventional domestic high pressure burner in about 40 seconds without removing the draft tube assembly.

The extractor consists of a double wrench, the inner side of which holds the adapter body while the outer side loosens and removes the nozzle tip. Two milled handles are of sufficient length to do the job, and still are easily operated inside the combustion chamber through the firing door of the boiler or furnace.

An attachment on the extractor makes it possible to hold the nozzle firmly while it is dismantled for cleaning and service, and during re-assembly. The tool is designed to save servicemen's time and speed nozzle service.

Aquaheater Newest of Tankless Water Heaters

JOSEPH E. LEWIS & CO., Baltimore 30, Md., has announced a new tankless water heater under the trade name "Aquaheater." This is a copper coil unit with a wilded steel shell which is heavily insulated. It can be used either with steam or hot water heating systems.

With boiler water at 180°, the unit is rated to heat 5 gals. per minute from 40° to 140°, and the capacity is increased a

Bronze resists rust, scaling and corrosion, provides greater operating efficiency. Newark All-Bronze Controls are increasingly selected by boiler manufacturers for installation as original equipment.

Engineered for positive protection and permanent satisfaction on all automatically-fired heating boilers.

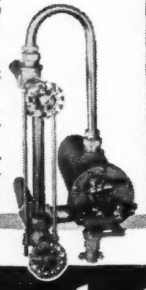
Compact single unit construction combines low water cut off with adjustable pressure control for double protection. Newark Controls' simplified design and sound engineering reduce the troublesome sediment problem.

Approved by Underwriters Laboratories; available in sizes for every type of boiler. Write today for information on Newark Controls' complete line of low water cut offs for boiler installation.

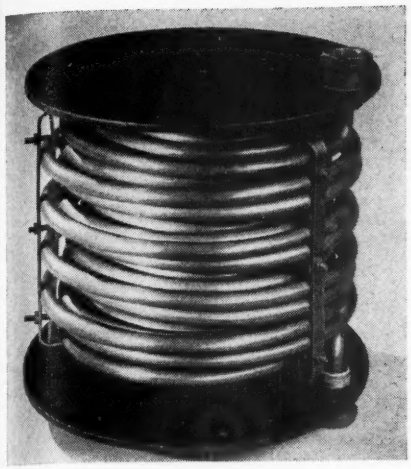
LOW WATER CUT OFF

Easy External Installation.
Gauge Glass Mounting Supplied.

- Combination low water cut off - adjustable pressure control by Newark Controls.
- All - bronze; rust-resistant.
- Reduces boiler sediment problem.
- Write for dealer information.



Newark Controls 15 Ward Street Bloomfield, New Jersey

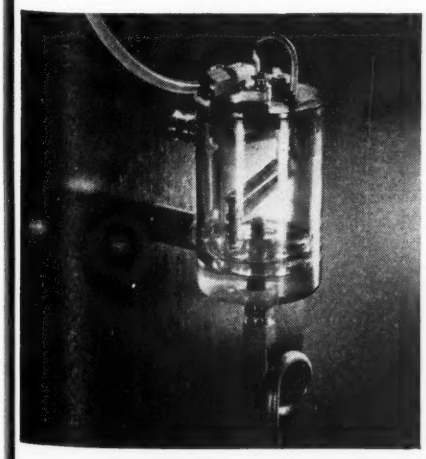


third when boiler water is 212°. Aquaheater contains 100 linear feet of ⅝ OD tubing with 16.3 sq. ft. of heating surface. Domestic water connections are ¾-in. and boiler water connections are 2-in. The shell is 14 ins. in diameter and 12 ins. high.

The Lewis company for 33 years has done tube bending and coiling for manufacturers, and has launched the water heater as a postwar product under their own name. It first was offered locally, and now is being marketed in an expanding area.

Humidifier Float Control Of Molded Plastic

FLOAT CONTROLS for furnace humidifier units are being molded of corrosion proof Tenite plastic for the Cleveland Humidifier Co., Cleveland. The transparent Tenite cup allows visibility of the inner mechanism, and a scale on the cup shows ap-



proximate water level to be maintained under different degrees of weather. The lid, also Tenite, is welded to the cup to make the unit proof against tampering.

ALL SIZES!

A GALONGAGE FOR BASEMENT TANKS THAT MEASURES

IN GALLONS OR IN INCHES

½ ACTUAL SIZE

Oil-tank size or type is no problem when you install a *Galongage.* For now you can have a *Galongage* that measures in gallons—or one that measures in inches.

The *Galongage* that measures in 10-gallon spacings is calibrated for each standard size 275-gallon tank with depths of 44", 42", 27" and 26" and for the 220-gallon tank with 42" depth—will fit either 1½" or 2" tank openings. The *Galongage* that measures in 2-inch spacings is specially suited to off-size tanks. When ordering, specify depth of tank, size of opening, and calibration desired.

The *Galongage* is simply but ruggedly constructed. It is easy to install; 4-inch clearance above the opening is ample. The magnifying lens on the dial makes for easy reading. Accuracy and eye appeal assure customer satisfaction.

Write today for our price list. Immediate delivery.

THE *Galongage*

A PRODUCT OF APPLIED MECHANICS COMPANY
167 OLIVER ST., BOSTON 10, MASS.

Leading into the plastic cup through the lid is a water inlet controlled by a self-flushing diaphragm valve. The rate of drip feeding from this inlet equals the rate of evaporation in the pan, which is regulated according to the desired degree of humidity. The valve automatically closes when the water level rises to within ⅜ inch of the top of the pan in the furnace. If grit is present on the valve seat, the level rises slightly higher, and the surplus goes out the bottom of the cup through an overflow tube. A coil in this tube provides a trap which prevents the exit of air while allowing water to pass.

Within the plastic cup, a bell float of Tenite (for its lightness of weight) accurately maintains the water level for which the control lever is set. Constantly recharging itself with trapped air, the hollow Tenite float withstands the expansion and contraction of air without developing strains. It is adjusted by means of a series of metal-alloy levers connecting it with the control lever.

Gauge for Oil Drums

U. C. INDICATOR SALES, Milwaukee 2, Wis., has announced a patented new device called the U. C. Indicator which is

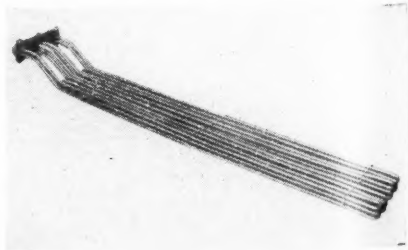
claimed to ease keeping of inventory, check and guard against pilfering, and maintain a dependable re-order system for products dispensed from 50 or 30 gallon drums. A pointer above the faucet shows the amount of oil left in the drum.

The U. C. Indicator can be installed on all standard 50 and 30 gallon steel drums. Simply screw the Indicator into the drum faucet opening, then screw the faucet into the opening on the Indicator body. Release the locking device, and the calibrated Indicator is ready for use. When a drum is emptied, the entire assembly can be removed and attached to a full drum.

Designed for use with any liquid that can be put into a regular steel drum, weighs only 8 ounces, has a cast aluminum body, fits any standard ¾" pipe thread, and uses any standard ¾" faucet.

Tankless Heaters for Internal Boiler Use

A LINE OF TANKLESS HEATER COILS for use with steam or hot water house heating



boilers are distributed by Brown Electric Co., Forest Hills, N. Y. These heaters are designed to be installed internally in the steam or water boiler so that the boiler water will circulate around them. Domestic service water flows through the continuous seamless drawn copper tubing.

The coils are pressure tested at 150 pounds per sq. in., and the shell is tested at 75 pounds.

Yes, smart dealers and distributors all over the country are pushing themselves right into this beautiful profit-picture—and there's plenty of room for you, too, when you handle SILOO FUEL OIL TANK SOLVENT. Here's a product that commands a huge market. It should be in every oil-heated home . . . in every industry that uses fuel oil.

SILOO FUEL OIL TANK SOLVENT cleans burner systems and fuel oil tanks, *and keeps them clean.* It clears clogged pipe lines, strainers, oil filters and burners—improves combustion. Remember, too, SILOO FUEL OIL TANK SOLVENT picks up and disperses all water formed by condensation. Invaluable for space heaters, oil stoves, kerosene lamps, Diesels, etc. Distributors and jobbers—write for full particulars today.

SILOO FUEL OIL TANK SOLVENT is non-toxic, non-corrosive, non-inflammable, non-explosive—always safe to store and use the year round. Compounded by the world's largest exclusive manufacturer of petroleum solvents for all purposes.

SOLVENTS FOR ALL TYPES OF PETROLEUM RESIDUES

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Petroleum Solvents Corp. of Canada, Ltd., Montreal
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Brundage

BLOWERS . . . ENGINEERED TO YOUR CUSTOMER'S NEEDS

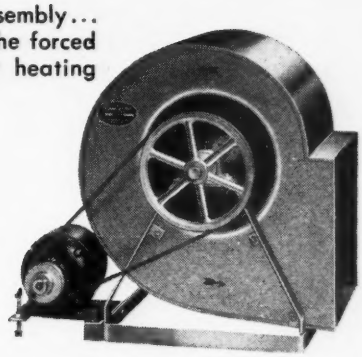
For years Brundage engineers have made your problem theirs, Mr. Manufacturer. Constantly at work checking and perfecting, skilled craftsmen have designed, tested, and improved blower assemblies that merit your consideration when looking for performance, for dependability, and for economy . . .

Forget those time, labor and production worries because *Brundage Builds Blowers* in a plant geared to mass production.

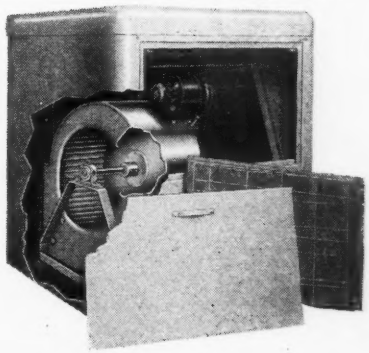
THE Brundage COMPANY

Blower Specialists Since 1919
KALAMAZOO 11, MICHIGAN

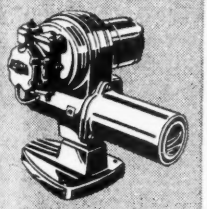
PDRM Assembly... heart of the forced warm air heating system.



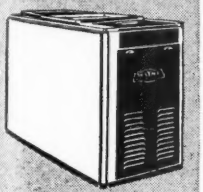
Cut-a-way view of Package Unit.



Visit our booth, number 510, at the 7th International Heating and Ventilating Exposition, Lakeside Hall, Cleveland, Ohio. January 27 to 31, 1947.



THERMATIC OIL BURNERS



WINTER AIR CONDITIONERS

DEEP WELL JET SYSTEMS

IF YOU WANT *Net Profit*

NOT JUST CONVERSATION...WRITE FOR DETAILS OF THE WAYNE PARTNERSHIP PLAN!

WHOLESALER-DEALER PARTNERSHIP PLAN
WAYNE HOME EQUIPMENT

A symbol of business integrity

More NET profit because Wayne gives you a selling program complete with advertising and sales helps to get and keep a profitable volume of home equipment business.

Lower sales expense means higher NET profit. The Wayne Partnership Plan gives you action, sales help and NET profit, combining the best efforts of the manufacturer and wholesaler to produce more sales only through the dealer.

A FULL LINE OF INSTALLED HOME EQUIPMENT

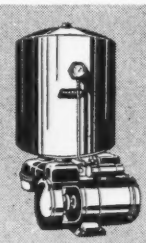
A town and country line of necessary installed equipment . . . not luxury items. The high demand for basic equipment will far outlast that of conventional merchandise.

Quality built for more sales and fewer service calls. A wise choice for dealers interested in steady sales with consistent NET profits.

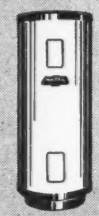
● ***FOR A SOUND BUSINESS FUTURE . . . WRITE TODAY!***

WAYNE'S FACTORY GUIDED SALES PROGRAM IS A PACKAGED UNIT OF SALES AND PROFIT PRODUCING HELPS

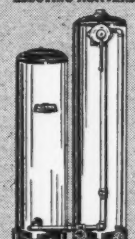
Full Line Dealerships are Still Open



SHALLOW WELL SYSTEMS



OIL, GAS AND ELECTRIC HEATERS

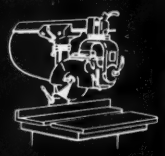


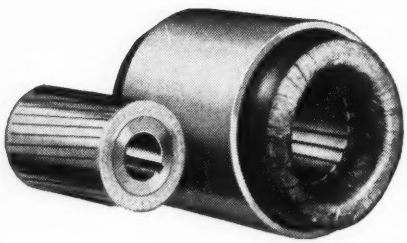
SOF-LUX WATER SOFTENERS

WAYNE HOME EQUIPMENT CO., INC. - 801 GLASGOW, FT. WAYNE, IND.

(Formerly Wayne Oil Burner Company)

BETTER *your* PRODUCT





Specify OHIO *"Application Proved"* MOTORS

Ohio engineers do not merely "follow the crowd" in motor design. They are pioneers. For example, in the oil burner industry, nearly one-third of all domestic oil burners are powered by Ohio Motors. And in the elevator field, all principal manufacturers have used Ohio Torque Motors for 20 years!

Ohio Motors have stood the supreme test of time. To assure the success of your product, look to Ohio engineers for the "know how" to build the one best motor for your application. Write for complete information about Ohio "Application Proved" Motors . . . *Split-Phase . . . Direct Current . . . Capacitor . . . Polyphase . . . Shell Type . . . Synchronous . . . Torque.*

THE OHIO ELECTRIC MFG. CO.

Chester Bland, Pres.

5913 Maurice Ave. ● Cleveland 4, Ohio

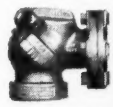
SELL *Comfort UNlimited*

...with Flow Control Units that Assure HOT WATER AT ITS BEST!

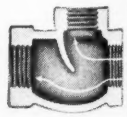
There's only one reason for the existence of today's heating industry: Man's desire-demand for winter comfort. Realizing this, most successful dealers talk to customers first in terms of results—then in terms of furnaces and equipment.

That's why Triplex dealers are fortunate. They can sell *comfort unlimited*—unvarying comfort that results from hot water heating at its best! The advanced design and precision construction of all Triplex Flow Control Units assure the most efficient, dependable operation possible. Hot water is automatically circulated, abundant heat supplied to radiators instantly—whenever and wherever needed. Third floor north is just as comfortable as first floor south, for Triplex Units automatically balance heat loss with heat supply. Ample hot water for domestic use is also provided at practically no additional cost. So learn more about the full Triplex line and what it can do for you. Write for catalog today.

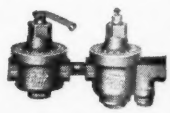
Direct Drive Circulators



Flow Control Valves



One-Pipe Distributors



Relief and Pressure Reducing Valves

Indirect Heaters

Triplex

HEATING SPECIALTY CO., PERU, INDIANA

In addition to units illustrated, the Triplex line includes—Direct Drive Horizontal Circulators, Indirect Drive Circulators, Expansion Tanks, Air Eliminators, Water Mixing Valves, Air Vent Valves, Tankless Heaters, Control Units, Electrical Controls, Barometric Draft Dampers, Sump Pumps.

SEE YOUR WHOLESALER TODAY

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their groups' activities to reach the editor by the 20th.

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Standing in the rear row are guest moderators of the Westchester County Teachers Association and representatives of the sponsors of the program, Westchester Oil Trade Association. As shown, they are (from left to right) Dr. Ignatius D. Tau-

General Filter says:
WATCH FOR OUR
ANNOUNCEMENT!
OUR BIGGER, BETTER SUPER-ECONOMY MODEL FUEL OIL FILTER IS COMING SOON! IT'S EASIER TO SELL . . . SIMPLE TO INSTALL . . . WILL GIVE BETTER SERVICE . . . HAS LONGER LIFE . . . AND MEANS BIGGER PROFITS FOR YOU!

Attention—ALL JOBBERS, CONTRACTORS, SERVICE COMPANIES!

If you have not investigated the profitable, fast-turnover *General* Fuel Oil Filter line do so at once! It's the hottest item today in the fuel oil business! Contractors and service companies, see your jobber immediately! Jobbers, write for full story details and jobber quantity discounts!

Listed: Re-examination Service, Underwriters' Laboratories, Models 1A-25 and 2A-300

GENERAL FILTERS INCORPORATED **GENERAL FUEL OIL FILTER** 12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

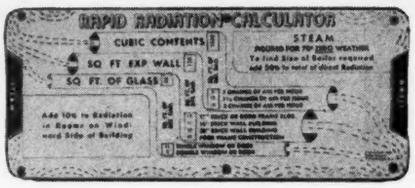
CANADIAN FACTORY BRANCH: J. C. McLACHLAN, 21 KING STREET, EAST • TORONTO, ONTARIO

fuelfoil & oil heat

this point the temperature in the furnace is raised according to a predetermined schedule, so that when the inside thermostat calls for heat the entire heating system will be prepared to deliver heat at approximately the right temperature to the ducts.

Radiation Calculator Speeds Heat Loss Data

RAPID RADIATION CALCULATOR has just been announced by the Smithson Co., Derby, Conn. It is a simplified sliding scale designed for use by oilburner service men and salesmen, engineers, plumbers

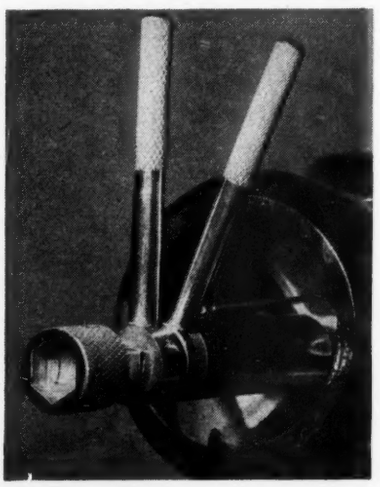


and steamfitters. It saves calculations in determining the heat requirements of any room or rooms.

This Rapid Radiation Calculator shows the amount of steam, hot water and warm air required for rooms and buildings of various types of construction. Made of Vinylite (an exceptionally durable plastic), pocket size 7" x 3", printed in three colors. Simple to understand and use, and based on engineering standards of B. T. U. heating losses.

Wrench Offered for Complete Nozzle Service

THE IDEAL NOZZLE EXTRACTOR is being marketed by Torrisi Enterprises, Lawrence, Mass., as a time-saving tool for complete service on oilburner nozzles. It is claimed that a nozzle can be removed



from a conventional domestic high pressure burner in about 40 seconds without removing the draft tube assembly.

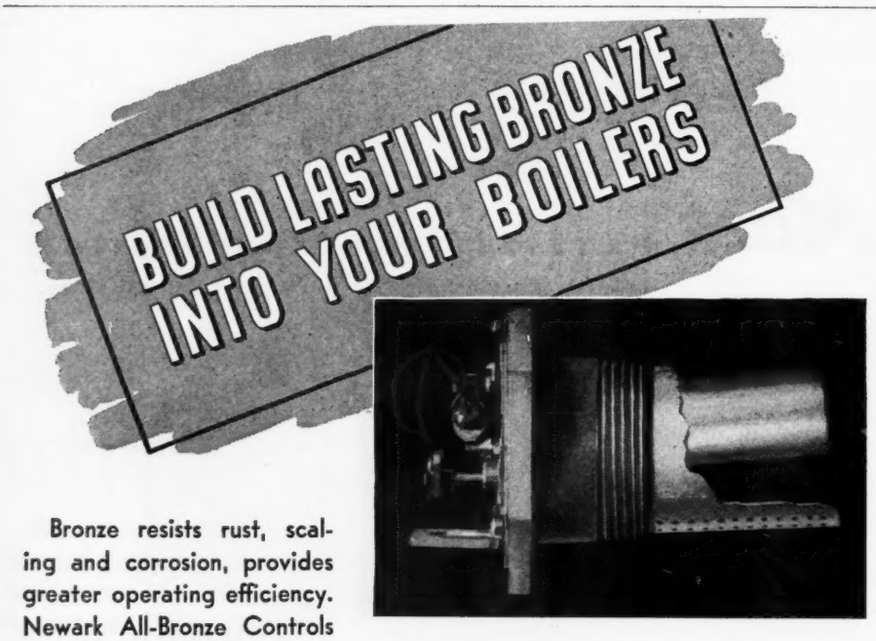
The extractor consists of a double wrench, the inner side of which holds the adapter body while the outer side loosens and removes the nozzle tip. Two milled handles are of sufficient length to do the job, and still are easily operated inside the combustion chamber through the firing door of the boiler or furnace.

An attachment on the extractor makes it possible to hold the nozzle firmly while it is dismantled for cleaning and service, and during re-assembly. The tool is designed to save servicemen's time and speed nozzle service.

Aquaheater Newest of Tankless Water Heaters

JOSEPH E. LEWIS & CO., Baltimore 30, Md., has announced a new tankless water heater under the trade name "Aquaheater." This is a copper coil unit with a wilded steel shell which is heavily insulated. It can be used either with steam or hot water heating systems.

With boiler water at 180°, the unit is rated to heat 5 gals. per minute from 40° to 140°, and the capacity is increased a

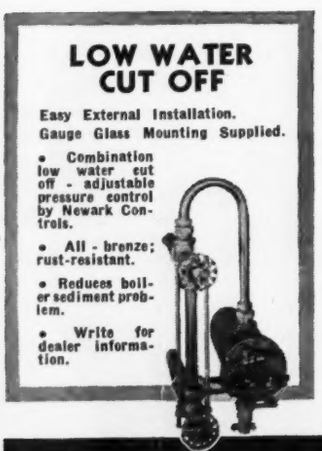


Bronze resists rust, scaling and corrosion, provides greater operating efficiency. Newark All-Bronze Controls are increasingly selected by boiler manufacturers for installation as original equipment.

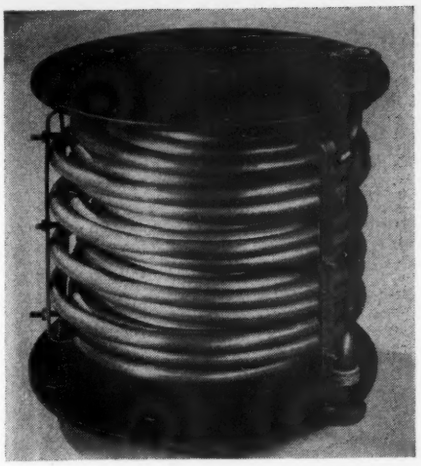
Engineered for positive protection and permanent satisfaction on all automatically-fired heating boilers.

Compact single unit construction combines low water cut off with adjustable pressure control for double protection. Newark Controls' simplified design and sound engineering reduce the troublesome sediment problem.

Approved by Underwriters Laboratories; available in sizes for every type of boiler. Write today for information on Newark Controls' complete line of low water cut offs for boiler installation.


LOW WATER CUT OFF
Easy External Installation.
Gauge Glass Mounting Supplied.
• Combination low water cut off - adjustable pressure control by Newark Controls.
• All - bronze; rust-resistant.
• Reduces boiler sediment problem.
• Write for dealer information.

Newark Controls
15 Ward Street
Bloomfield, New Jersey

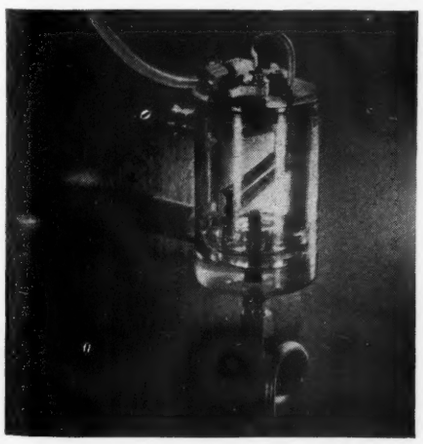


third when boiler water is 212°. Aquaheater contains 100 linear feet of ⅝ OD tubing with 16.3 sq. ft. of heating surface. Domestic water connections are ¾-in. and boiler water connections are 2-in. The shell is 14 ins. in diameter and 12 ins. high.

The Lewis company for 33 years has done tube bending and coiling for manufacturers, and has launched the water heater as a postwar product under their own name. It first was offered locally, and now is being marketed in an expanding area.

Humidifier Float Control Of Molded Plastic

FLOAT CONTROLS for furnace humidifier units are being molded of corrosion proof Tenite plastic for the Cleveland Humidifier Co., Cleveland. The transparent Tenite cup allows visibility of the inner mechanism, and a scale on the cup shows ap-



proximate water level to be maintained under different degrees of weather. The lid, also Tenite, is welded to the cup to make the unit proof against tampering.

ALL SIZES!

A GALONGAGE FOR BASEMENT TANKS THAT MEASURES

IN GALLONS OR IN INCHES

½ ACTUAL SIZE

Oil-tank size or type is no problem when you install a *Galongage.* For now you can have a *Galongage* that measures in gallons—or one that measures in inches.

The *Galongage* that measures in 10-gallon spacings is calibrated for each standard size 275-gallon tank with depths of 44", 42", 27" and 26" and for the 220-gallon tank with 42" depth—will fit either 1½" or 2" tank openings. The *Galongage* that measures in 2-inch spacings is specially suited to off-size tanks. When ordering, specify depth of tank, size of opening, and calibration desired.

The *Galongage* is simply but ruggedly constructed. It is easy to install; 4-inch clearance above the opening is ample. The magnifying lens on the dial makes for easy reading. Accuracy and eye appeal assure customer satisfaction.

Write today for our price list. Immediate delivery.

THE *Galongage*

A PRODUCT OF APPLIED MECHANICS COMPANY
167 OLIVER ST., BOSTON 10, MASS.

Leading into the plastic cup through the lid is a water inlet controlled by a self-flushing diaphragm valve. The rate of drip feeding from this inlet equals the rate of evaporation in the pan, which is regulated according to the desired degree of humidity. The valve automatically closes when the water level rises to within 3/8 inch of the top of the pan in the furnace. If grit is present on the valve seat, the level rises slightly higher, and the surplus goes out the bottom of the cup through an overflow tube. A coil in this tube provides a trap which prevents the exit of air while allowing water to pass.

Within the plastic cup, a bell float of Tenite (for its lightness of weight) accurately maintains the water level for which the control lever is set. Constantly recharging itself with trapped air, the hollow Tenite float withstands the expansion and contraction of air without developing strains. It is adjusted by means of a series of metal-alloy levers connecting it with the control lever.

Gauge for Oil Drums

U. C. INDICATOR SALES, Milwaukee 2, Wis., has announced a patented new device called the U. C. Indicator which is

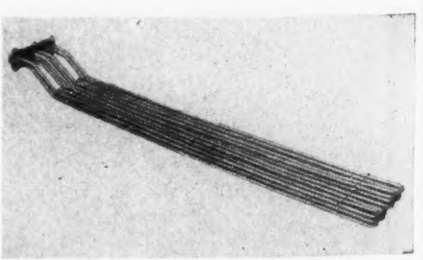
claimed to ease keeping of inventory, check and guard against pilfering, and maintain a dependable re-order system for products dispensed from 50 or 30 gallon drums. A pointer above the faucet shows the amount of oil left in the drum.

The U. C. Indicator can be installed on all standard 50 and 30 gallon steel drums. Simply screw the Indicator into the drum faucet opening, then screw the faucet into the opening on the Indicator body. Release the locking device, and the calibrated Indicator is ready for use. When a drum is emptied, the entire assembly can be removed and attached to a full drum.

Designed for use with any liquid that can be put into a regular steel drum, weighs only 8 ounces, has a cast aluminum body, fits any standard 3/4" pipe thread, and uses any standard 3/4" faucet.

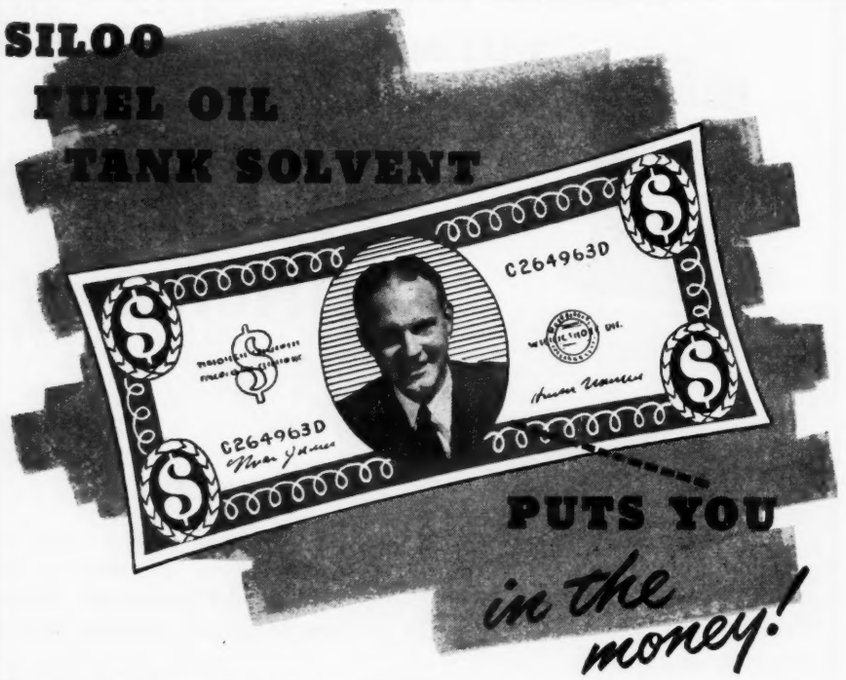
Tankless Heaters for Internal Boiler Use

A LINE OF TANKLESS HEATER COILS for use with steam or hot water house heating



boilers are distributed by Brown Electric Co., Forest Hills, N. Y. These heaters are designed to be installed internally in the steam or water boiler so that the boiler water will circulate around them. Domestic service water flows through the continuous seamless drawn copper tubing.

The coils are pressure tested at 150 pounds per sq. in., and the shell is tested at 75 pounds.



Yes, smart dealers and distributors all over the country are pushing themselves right into this beautiful profit-picture—and there's plenty of room for you, too, when you handle SILOO FUEL OIL TANK SOLVENT. Here's a product that commands a huge market. It should be in every oil-heated home . . . in every industry that uses fuel oil.

SILOO FUEL OIL TANK SOLVENT cleans burner systems and fuel oil tanks, *and keeps them clean.* It clears clogged pipe lines, strainers, oil filters and burners—improves combustion. Remember, too, SILOO FUEL OIL TANK SOLVENT picks up and disperses all water formed by condensation. Invaluable for space heaters, oil stoves, kerosene lamps, Diesels, etc. Distributors and jobbers—write for full particulars today.

SILOO FUEL OIL TANK SOLVENT is non-toxic, non-corrosive, non-inflammable, non-explosive—always safe to store and use the year round. Compounded by the world's largest exclusive manufacturer of petroleum solvents for all purposes.

SOLVENTS FOR ALL TYPES OF PETROLEUM RESIDUES

Petroleum Solvents

CORPORATION

General Offices: 331 Madison Avenue, New York 17
Petroleum Solvents Corp. of Canada, Ltd., Montreal
Plant and Laboratories: Port Reading, New Jersey

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fueloil & oil heat

beneck, Director of Social Studies at Bronxville Secondary School; Mr. William Duke 3rd, President of the Westchester County Teachers Association; Mr. Thomas A. Brown, President of the Westchester Oil Trade Association; Mr. Herbert M. Spade, chairman of the advertising committee of Westchester Oil Trade Association; Ralph Allinger, announcer of "Westchester Youth Speaks" over Station WFAS.

"Westchester Youth Speaks" is one phase of a wide scale advertising campaign sponsored by the Westchester Oil Trade Association, an organization of more than 50 suppliers of Fuel Oil and Oil Heating Equipment throughout Westchester County.

Brooklyn-Queens Group Launches Advertising Campaign

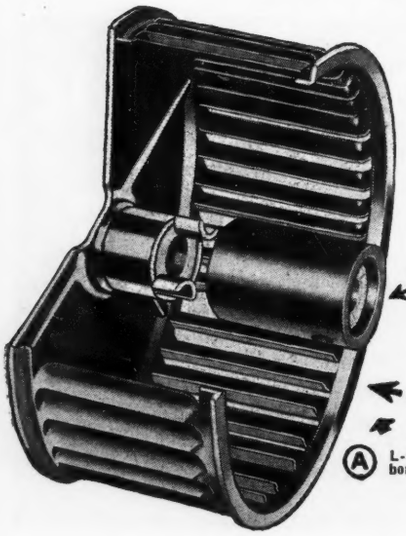
CONTINUING THE TREND of local oilheating associations toward joint advertising projects, the Fuel Oil & Heating Council, Inc., of Brooklyn and Queens, N. Y., has undertaken an extensive campaign, in anticipation of a buyers' market in the coming year.

N. R. Skaggs is president of the Council; Fred Wilson is secretary and chairman of the Publicity Committee. The program was developed and supervised by S. Frederic Auerbach Co., Inc., New York advertising agency.

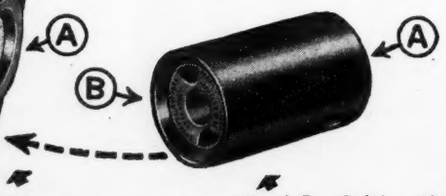
One of the featured themes of the advertising campaign will be a refutation of so-called "free service," being revived by some dealers in the market. Copy will stress the fact that no service, if it is worth anything, can be provided gratuitously. The principal slogan throughout the campaign will be "Old Heat is the Best Heat," which is also being used successfully in a similar campaign conducted by the same agency for the Westchester Oil Trade Assn. The Brooklyn-Queens program is to include:

Question → What Flexible Couplings are designed especially for OIL BURNERS?

Answer → LOVEJOY L-R Type CX Double-Flex FLEXIBLE COUPLINGS



- One Unit Construction
- Quick Assembly
- Tight fit—no rattle
- Low Cost



(A) L-R Body inserted (not bonded) in rubber body. (B) L-R Socket actually molded in the rubber (no metal) engages blower hub.

ASSEMBLY CAN'T FALL OFF when blower and pump units are serviced because L-R body is permanently fastened to the pump shaft. Simple, easy installation construction. Blower manufacturers will supply blowers with L-R jaws on the blower hub. Write today for the facts.

Ask for Bulletin No. 520

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

CAN YOU TELL HER WHY YOU HAVE *NO HEAT?*

You can't explain to your child why Daddy's heating unit broke down or why Mommy forgot to re-order the oil! Your child trusts you to keep her comfortable and healthy. And it's easy for you to do! Just consult a local member of the FUEL OIL AND HEATING COUNCIL . . . and he will do the rest. He's the man you can *fully* depend on to make your Oil Heating *completely* automatic — to keep your home warm and healthy at all times.

about "FREE" SERVICE

There's been some talk of "Free" Oil Burner Service. It's just so much talk! You do not get something for nothing. No one can provide free service without charge. Somewhere YOU PAY SOMEHOW for it.

What we offer you makes sense! We have several plans of service, some of which include replacement of required parts. One of these plans is right for YOUR home!

Yes, if you want personalized service that guarantees you dependable, smooth, economical Oil Heating . . . call on a recognized dealer of the FUEL OIL AND HEATING COUNCIL!

CONSULT A MEMBER

Listen to WHN, 1050 on your dial "COMMON SENSE COUNSELOR" IGNATIUS D. TAUBENECK *Eminent educator and lecturer* Every Saturday at 12:30 P.M. Bring or send to your problems to Ignatius D. Taubeneck, Station WHN, New York.

FUEL OIL & HEATING COUNCIL, INC. BROOKLYN • QUEENS

EV. 7-2980 827 GRAND STREET, B'KLYN. 11, N. Y.

Newspaper *advertising of Brooklyn-Queens group, approximately half-page.*

NOT SCARCE AT SID HARVEY'S

Up Program, our men have been kept busy all summer
Yes, due to the Harvey Replacement and Stocking

building up our stock of guaranteed rebuilt

CONTROLS-FUEL UNITS-VALVES CIRCULATORS - MOTORS

and every other scarce item needed for Winter service.

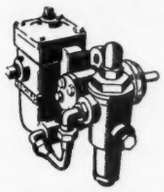
IN STOCK FOR IMMEDIATE EXCHANGE

Sid Harvey's catalogue of new and rebuilt oil burner parts is offered FREE to the trade only—Write on your letterhead.

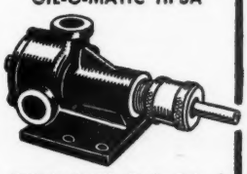
SID HARVEY INC.
VALLEY STREAM, NEW YORK

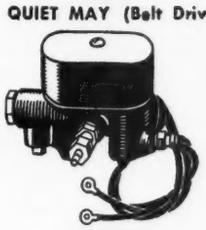
In Philadelphia	*In Boston*	*In Newark*
Sid Harvey of Pa., Inc. 1520 South 57th Street (43) Branch: 521 W. Lindley Ave.	Sid Harvey of Mass., Inc. 566 Cambridge Street (Allston Station)	Sid Harvey of N. J., Inc. 103 Lindsley Avenue

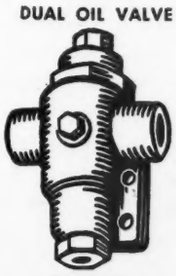
SUNDSTRAND 7 OB


HERCULES & DELCO

OIL-O-MATIC HP3A


QUIET MAY (Belt Drive)


TIMKEN
DUAL OIL VALVE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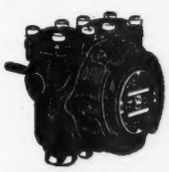
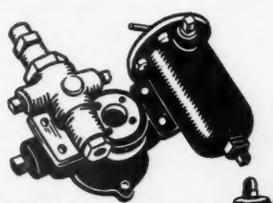
REGULATING VALVE


WEBSTER T UNIT

WEBSTER D UNIT

M-H PROTECTOSTAT

M-H THERMOSTAT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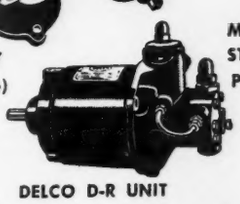
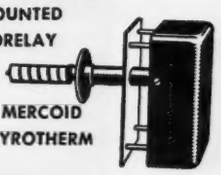
(Direct Drive)


DELCO D-R UNIT

M-H
PRESSURETROL

M-H
STACK MOUNTED
PROTECTORELAY

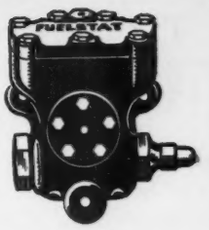
M-H
AQUASTAT


MERCOID
PYROTHERM

M-H
WALL MOUNTED
PROTECTORELAY

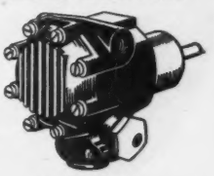
WATER
CIRCULATORS

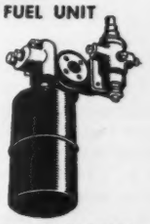
M-H
CHRONOTHERM

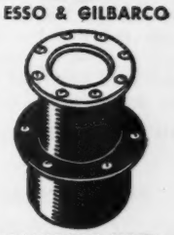

TUTHILL

PIONEER
& ELECTROL

TEESDALE WALL PUMP


SUNDSTRAND
FUEL UNIT


ESSO & GILBARCO


CONSTANT LEVEL
VALVES

PENN SAFETROL

M-H PYROSTAT

(1) Starting November 17 and continuing for six months, a series of Display advertisements appearing daily in newspapers covering the Brooklyn, Queens, and Long Island areas.

(2) Starting November 23 and running for an initial thirteen weeks, a fifteen minute program broadcast over Station WHN, New York, at 12:30 P.M. The program, known as the "Common Sense counselor," will feature Ignatius D. Taubeneck, educator and lecturer, who will advise on youth and family problems.

(3) The combined fleet of delivery trucks operated by members of the council will be used for mobile advertising. The trucks will display distinctive posters, and the slogan "Oil Heat Is The Best Heat" will be painted on the tires of the trucks.

(4) Hundreds of placards will be displayed by members of the Association. A distinctive symbol of the Fuel Oil and Heating Council will appear on all advertising copy. A three color decal of the symbol has been made and is prominently displayed by all members at their places of business.

(5) An intensive direct-mail campaign will be instituted. Over sixty thousand direct-mail pieces of literature will be mailed out by members along with invoices and business letters.

(6) Publicity releases will be sent to newspapers and magazines, explaining the radio program and on all other phases of the program.

Protect YOUR EYES WITH A "COMBUSTION XRAY LENS" when checking OIL FIRES!

Injurious rays of the fire box will damage your vision if your eyes are not protected when inspecting an oil fire. With the help of a "Combustion XRAY Lens" you will save your eyes while looking right into the center of the flame to *see how the oil is burning*. You can now observe and check the fire for black streaks, ragged ends, uneven or torch-type flame, smoky tips, "cold fire" and then make the necessary adjustments.

This will also enable you to check the claims that we've been making for KLEEN-FLO. A real "before and after" test. First observe the fire as is—then add KLEEN-FLO to the tank as instructed—24 hours later look again through the "Combustion XRAY Lens." You should notice a definite improvement—a bright, hot fire, clean tips, elimination of black streaks and ragged ends—a clean steady and more efficient oil fire. Take advantage of our special offer listed below—TODAY.

SPECIAL TRIAL OFFER

1 "Combustion XRAY Lens" BOTH FOR $1.50
1 Quart KLEEN-FLO

COMBUSTION UTILITIES CORPORATION
1451 BROADWAY NEW YORK 18, N. Y.

Canadian Division
1253 McGill College Ave., Montreal 2

New England Distributor
ALLIED APPLIANCE COMPANY
111 Berkeley Street Boston 16, Mass.

West Coast Distributor
DIAMOND OIL CO., INC.
550 Bauchet St., Los Angeles 54, Calif.

Mass. Oil Heating Assn. Hears Cauley of Socony

AT ITS 138TH monthly meeting, November 19 at Boston's Fox & Hounds Club, the members of the Massachusetts Oil Heating Assn. heard S. P. Cauley, product engineer for Socony-Vacuum Oil Co., discuss improvement in the design of pot type burners. Socony has done considerable work on this problem at its Greenpoint laboratory in the past two years.

National Petroleum Council Appoints Committees

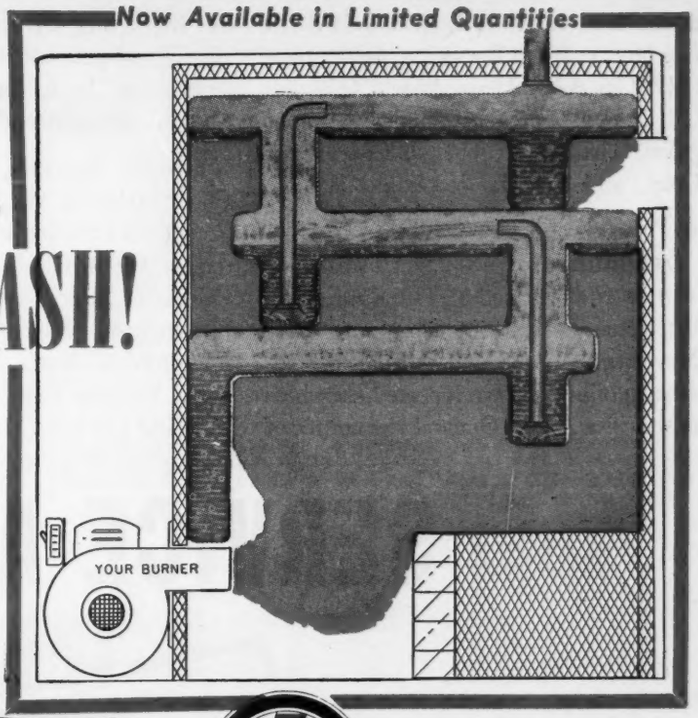
THE NATIONAL PETROLEUM COUNCIL, 85 member group set up to work with Department of the Interior's Oil & Gas Division, has appointed two working committees to expedite its activities in the absence of the full council. These are called the Agenda Committee and the Appointment Committee. All matters to be discussed by the Council must first be considered by the Agenda Committee and then if considered suitable subjects are to be passed to the larger group with the recommendations of the Agenda Committee. Committee members are:

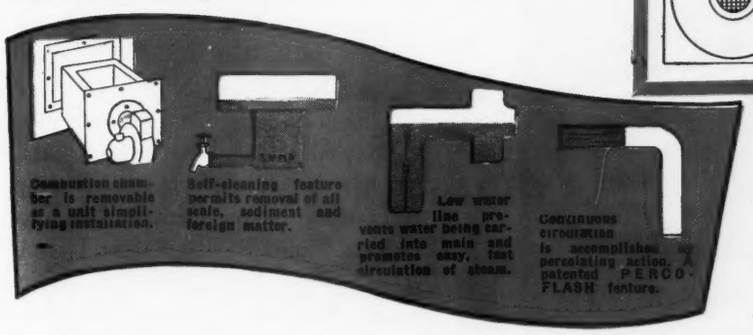
Agenda Committee: George A. Hill, Jr., Houston Oil Co. of Texas, temporary chairman; A Jacobsen, Amerada Petroleum Corp.; Walter Hallahan, Plymouth Oil Co.; William R. Boyd, Jr., American Petroleum Institute; Gordon Duke, Southeastern Oil Inc.; J. Howard Marshall, Ashland Oil & Refining Co.; B. A. Hardey, Independent Petroleum Assn. of America; Hines Baker, Humble Oil & Refining Co.; W. H. Ferguson, Continental Oil Co.; R. G. Follis, Standard Oil Co. (Cal.); and A. C. Mattei, Honolulu Oil Corp.

Appointment Committee: W. Alton Jones, Cities Service Oil Co., temporary chairman; B. Brewster Jennings, Socony-Vacuum Oil Co.; H. L. Thatcher, National Council of Independent Petroleum Associations; W. S. S. Rodgers, Texas Co.; Charles F. Roeser, Roeser and Pen-

TO DISCOVER *Sound Engineering in Boiler Design...* LOOK INTO PERCOFLASH!

In its unique, scientifically correct percolating principle of design, you'll find one of many reasons for the amazing performance of the PERCOFLASH Boiler. Its sound engineering has brought boiler heating to a vastly higher plane of efficiency because of its instantaneous generation of steam and hot water. No matter what your customer's preference, whether coal, gas or oil, you can now assure him lowest possible operating cost. Before you decide on the boiler to offer your trade, we suggest you look *first* into PERCOFLASH. Write today.




Combustion chamber is removable as a unit simplifying installation.
Self-cleaning feature permits removal of all scale, sediment and foreign matter.
Low water line prevents water being carried into main and promotes easy, fast circulation of steam.
Continuous circulation is accomplished by percolating action. A patented PERCOFLASH feature.

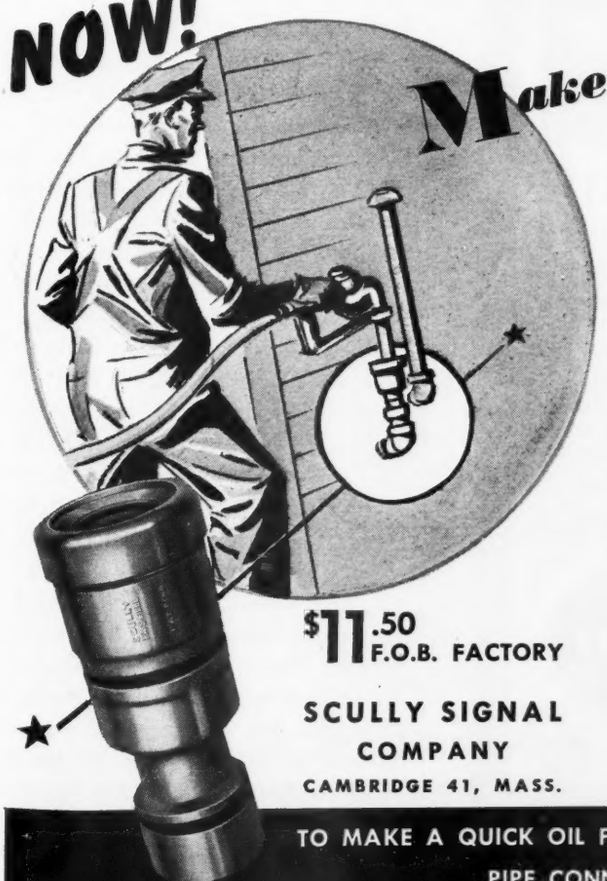
PERCO-FLASH

THE FLASH ACTION BOILER WITH THE PERCOLATING ACTION

Westcott - Alexander, Inc.

DISTRIBUTORS. MADISON, NEW JERSEY

NOW! *Make Slow Fills . . .* FAST FILLS



WITH FASFILL . . . the quick fill pipe connection! Just a turn of the wrist and FASFILL is in place. Make it up hand tight only. Build-ups are unnecessary . . . worn fill pipe threads make no difference. With FASFILL you have *any* needed connection in a jiffy! Long-wearing gaskets at all bearing points prevent oil seepage. FASFILL eliminates blowbacks and fill drip . . . and makes slow fills—fast fills!

Shove The Gun Home and Let 'er Go!

There's a synthetic rubber diaphragm in the FASFILL head — just shove the gun through this diaphragm and forget about blowbacks. FASFILL is designed to hold the gun in correct position. *Save time, save money* . . . with FASFILL!

WHEN ORDERING be sure and give us the OUTSIDE measurement across your gun nozzle.

In one SMALL convenient carrying box (weighs only few pounds complete) you can have ALL the connections needed for making up to 1¼", 1½", or 2" male or female fill pipe.

$11.50 F.O.B. FACTORY

SCULLY SIGNAL COMPANY

CAMBRIDGE 41, MASS.

TO MAKE A QUICK OIL FILL PIPE CONNECTION USE . . . **FASFILL**

dleton Inc.; R. E. Wilson, Standard Oil Co. (Ind.); Frank Porter, Mid-Continent Oil & Gas Assn.; Henry Moyle, Wasatch Oil Refining Co.; E. E. Pyles, Los Angeles; Charles S. Jones, Richfield Oil Corp.; and Jake Hamon, Cox & Hamon.

A.P.I. Marketing Division Announces General Committee

AT THE ANNUAL meeting of the American Petroleum Institute in Chicago in early November, of which the portions significant to oilheating are reported elsewhere in this issue, a new General Committee of the Marketing Division was appointed. Heating oil gets wider recognition in the new lineup, being the principal interest of six of the members. Members are:

Fred G. Bannerot, Jr., Elk Refining Co., Charleston, W. Va.; C. M. Barringer, North Carolina Jobbers Ass'n., Newton, N. C.; A. Clarke Bedford, Standard Oil Co. of N. J., New York, N. Y.; J. P. Birmingham, White Fuel Co., Boston, Mass.; W. C. Burns, Richfield Oil Corp. of N. Y., New York, N. Y.; O. H. Carlisle, Gulf Oil Corp., Houston, Texas; W. J. Carthaus, Deep Rock Oil Co., Chicago, Ill.; Royal E. Decker, Plymouth Oil Co., Detroit, Mich.; W. T. Dinkins, Richfield Oil Corp., Los Angeles, Calif.

J. E. Dyer, Sinclair Refining Co., New York, N. Y.; S. B. Eckert, Sun Oil Co., Philadelphia, Pa.; F. E. Fankell, Puritan Oil Co., Rapid City, S. D.; Walter L. Faust, Socony-Vacuum Oil Co., New York, N. Y.; H. E. Hanson, Standard Oil Co. (Indiana), Chicago, Ill.; C. Z. Hardwick, The Ohio Oil Co., Findlay, Ohio; John Harper, Harper Oil Co., Inc., Long Island City, N. Y.; A. M. Hughes, Phillips Petroleum Co., Bartlesville, Okla.; Carl R. Jonswold, Arrow Petroleum Co., Chicago, Ill.; Harry J. Kennedy, Continental Oil Co., Ponca City, Okla.

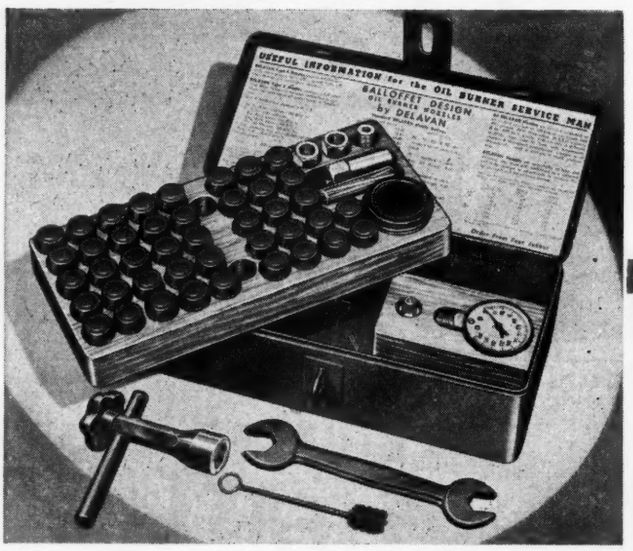
R. L. Kent, Kent Oil Co., Salina, Kansas; Jess Knowles, Skelly Oil Co., Kansas City, Mo.; P. E. Lakin, Shell Oil Co., Inc., New York, N. Y.; H. A. Logan, United Refining Co., Warren, Pa.; C. L. Mayhall, Anderson Prichard Oil Corp., Oklahoma City, Okla.; Joseph L. Nolan, Farmers Union Central Exchange, St. Paul, Minn.; Ray M. Parker, Hartol Products Corp., New York, N. Y.; T. S. Petersen, Standard Oil Co. of Calif., San Francisco, Calif.; A. F. Reed, Lion Oil Co., El Dorado, Ark.; M. H. Robineau, Frontier Refining Co., Cheyenne, Wyo.

R. J. Rogers, Indiana Independent Petr. Ass'n., Indianapolis, Ind.; W. F. Roth, Standard Oil Co. of Ky., Louisville, Ky.; R. L. Saunders, The Texas Co., New York, N. Y.; J. W. Scott, Buckley & Scott Utilities, Inc., Watertown, Mass.; A. A. Stambaugh, The Standard Oil Co. (Ohio), Cleveland, Ohio; A. C. Stewart, Union Oil Co. of Calif., Los Angeles, Calif.; Jesse Stickel, Crown Central Petroleum Co., New York, N. Y.; Hugh L. Thatcher, Thatcher Oil Co., Chattanooga, Tenn.; H. B. Van Cleve, Maritime Oil C., New York, N. Y.; W. W. Vandeveer, Allied Oil Co., Cleveland, Ohio.

Burl S. Watson, Petroleum Advisers, Inc., New York, N. Y.; C. B. Watson, The Pure Oil Co., Chicago, Ill.; Frank A. Watts, Humble Oil and Refining Co., Houston, Texas; Russell S. Williams, Individually Branded Petroleum Ass'n., Indianapolis, Ind.; Wayne C. Yeager, The Atlantic Refining Co., Philadelphia, Pa.; K. W. Yeates, Wasatch Oil Refining Co., Salt Lake City, Utah; *C. M. Gile, Gulf Oil Corp., Pittsburgh, Pa.; *B. I. Graves, Tide Water Associated Oil Co., New

New SERVICE AIDS

By the Makers of DELAVAN (Balloffet Design) NOZZLES



NEW STEEL SERVICEMAN'S KIT

Developed BY servicemen FOR servicemen

$10.00 Less nozzles, strainers, adapters.

Kit includes sturdy steel case with compartments for nozzle tips, adapters and strainers; ¼" MPT test gauge 0 to 300 PSI; gauge adapter ⅛" FPT to ¼" MPT; Delavan Nozzle Tool; nozzle parts brush; and double open-end wrench ⅝" and ¾". See it at your jobber's NOW.

New NOZZLE TOOL

$1.75 Heat treated aluminum wrench with just the right size screwdriver. Included as part of Serviceman's kit. Also available separately.

ORDER FROM ONE OF THE MANY JOBBERS STOCKING DELAVAN NOZZLES AND ACCESSORIES

Ask Your Jobber for the new Delavan Condensed Catalog No. 246.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

DELAVAN ENGINEERING CO.

Established 1937

DES MOINES 9, IOWA

DE Co

POLO

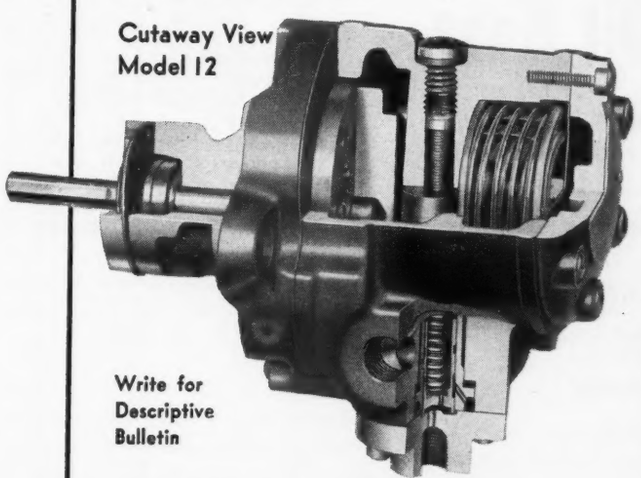
FORMERLY "RYSTROM"

OIL BURNER FUEL PUMPS

NEW IDEAS!
NEW FEATURES!
EASY TO INSTALL...
EASY TO SERVICE...
IDEAL FOR REPLACEMENT

POLO (formerly "Rystrom") PUMPS are designed and built to reduce the troubles commonly encountered by dealers and their service men. For example, the entire pump can be disassembled, if necessary, with only two tools—a screw driver and a set-screw wrench. For another example, the valve assembly can be quickly removed with a screw driver and the fingers . . . there are no press fits. The strainer consists of four concentric cylinders of fine-mesh monel screen, made up in a cartridge form that is easy to remove and easy to clean. Piping is simple, with all connections brought out to convenient locations. With adapter flanges, POLO PUMPS are ideal as reliable replacement units for the majority of existing burners. You get Performance *Plus* with POLO PUMPS.

Cutaway View
Model 12



Write for Descriptive Bulletin

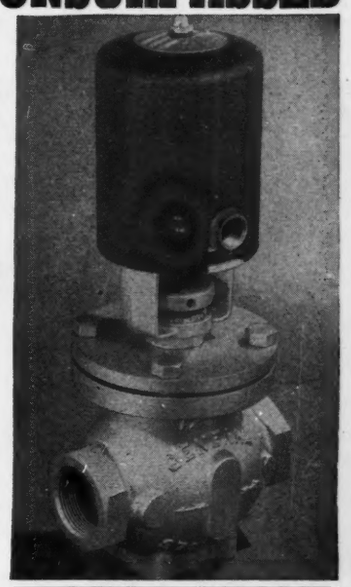
POLO PUMP CO.

Formerly Rystrom Engineering Company

POLO, ILLINOIS

CONTROLS UNSURPASSED

G-1-1



HIGH PRESSURE MOTOR VALVE

HYDRAMOTOR units simplify your control valve installations. For commercial and industrial applications. Control light and heavy oils, gas, steam and water. Two-wire, current failure, normally closed, single seated. Have ample power and handle pressures up to 300 P.S.I. Gear trains are completely eliminated. Minimum number of moving parts are lubricated and sealed in oil for life with little effect from ambient temperatures.

FOR COMPLETE SPECIFICATIONS on motor-operated and other automatic temperature, pressure and flow controls write for the new 1946 Catalog 52C or contact Factory Branch or Distributor near you.

8-2

GENERAL CONTROLS

801 ALLEN AVENUE — **GLENDALE 1, CALIF.**

FACTORY BRANCHES: PHILADELPHIA • ATLANTA • BOSTON • CHICAGO • DALLAS
KANSAS CITY • NEW YORK • DENVER • DETROIT • CLEVELAND • PITTSBURGH
HOUSTON • SEATTLE • SAN FRANCISCO • **DISTRIBUTORS IN PRINCIPAL CITIES**

fuelail & oil heat

York, N. Y.; *R. W. McDowell, Mid-Continent Petroleum Corp., Tulsa, Okla.; *W. K. Warren, Warren Petroleum Corp., Tulsa, Okla.; *E. V. Weber, Eureka Oil Company, Cincinnati, Ohio.

*API Directors.

Building Authorizations Go Over 820,000 Units

AUTHORIZATIONS for construction of new permanent houses and apartments under the Veterans Emergency Housing Program totaled 820,239 from January 15 through November 1, the National Housing Agency has reported.

In the last five weeks period 68,524 units were added.

These figures are exclusive of conversions and agricultural and temporary reuse housing for veterans.

Issuance of the HH priority ratings indicate a private builders' intention to proceed with construction within 90 days, and often there is a time lag between issuance and actual start of construction.

Authorizations granted for new permanent units to be built for sale total 675,632, and those for rent total 203,270. Some units are listed as either for sale or for rent and therefore appear in both classifications. The proportion of rentals is raised considerably when the temporary re-use and converted units are added.

Of the permanent sales units approved, 34.4% are to sell for less than $6,500, and 34.6% of the rental units will rent for less than $50 a month (not including utilities).

The Pacific Coast States continue to lead the country in volume of priorities issued with 163,549 units.

"NEWTYPE CORD" Fuel Oil Hose

This hose is a *must* if you want to profit by quick, efficient, *low-cost* fuel oil deliveries. Patented wire-reinforced construction, incorporating an oil-proof "Synplastic" tube, assures maximum inside diameter at all times, even when hose is partially reeled or extended around sharp bends. Tough red cover withstands plenty of abrasive wear. Its lightness of weight and extreme flexibility make it easy to carry out and re-reel. Available in all standard sizes and required lengths.

Contact Our Nearest Branch or Main Office for Details.

GOODALL RUBBER COMPANY • INCORPORATED

WE ARE PARTICIPANTS IN THE OWNERSHIP AND OPERATION OF NATIONAL SYNTHETIC RUBBER CORPORATION

THE GOODALL-WHITEHEAD COMPANIES

Philadelphia • Trenton • New York • Chicago • Pittsburgh • Boston
Los Angeles • San Francisco • Seattle • Salt Lake City • Houston

Factory—Trenton, N. J. Established 1870

U. S. Department of Labor Fueloil Prices August

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various supplies in each market, the prices are averaged and published. Those in the table that follow were taken September 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	10.12	9.94	8.63	8.70
Bridgeport	10.00	..	8.85	..
Fall River	..	..	9.25	..
Manchester	11.04	..	9.40	..
New Haven	10.30	..	9.00	..
Portland, Me.	10.00	9.90	8.60	..
Providence	9.95	9.80	8.60	..
Buffalo	10.93	10.98	10.40	10.40
Newark	..	9.60	8.60	8.60
*New York	..	..	8.95	..
Philadelphia	..	9.46	8.43	8.42
Rochester	11.10	10.96	9.68	9.80
*Chicago	8.87	8.36	8.36	8.36
**Cleveland	..	9.58	..	9.06
**Detroit	..	9.27	8.76	8.24
*Des Moines	..	8.87	8.36	8.35
*Kansas City	..	8.49	7.98	7.85
Milwaukee	9.80	9.30	8.80	8.80
Minneapolis	9.40	9.40	8.70	8.70
Omaha	..	8.70	8.20	8.20
St. Louis	9.45	8.92	8.36	8.36
St. Paul	9.40	9.40	8.70	8.70
Baltimore	..	9.45	8.60	..
Norfolk	..	9.60	8.25	..
Richmond	..	9.90	8.60	..
Washington	..	9.90	9.00	..
Charleston, S. C.	..	10.85	8.60	..
Jacksonville	..	9.85	9.42	..
Savannah	..	11.20	9.90	9.90
**New Orleans	..	10.12	8.45	8.42
Portland, Oreg.	..	9.80	8.30	..
***San Francisco	..	9.22	7.69	4.48
**Seattle	..	10.42	8.87	..

* Price includes 2% sales tax.
** Price includes 3% sales tax.
*** Price includes 2½% sales tax.

Give Them a Clean System Free from Leaks with These RC Products

STOP LEAKS with RC OIL SEAL

Remains semi-plastic insuring positive seal against vibration and pressure. Can be used with or in place of gaskets and on all threaded connections. Non-breakable plastic container with handy brush-in-cap makes RC Oil Seal easy and economical to use. Free sample on request.

CLEAN SYSTEM with RC Water Conditioner RC Sludgeout RC Sootout

RC WATER CONDITIONER neutralizes alkalinity in make-up water. Cleans boiler interior and keeps piping, traps, and siphons free from clogging — insuring efficient heating.

RC SLUDGEOUT removes and prevents sludge formation. Provides protective coating against caustic action on tank walls and in feed lines.

RC SOOTOUT removes the most common cause of heat transfer loss in oil-fired boilers safely and economically. Easy-to-use powder form.

RC Products Are Manufactured by

Ridgefield Chemical Products Company, Incorporated

Ridgefield 1, New Jersey

Distributor Territories Now Available

Larger Steam Systems

(Continued from page 50)

this. The orificing can be made to give underheating and overheating, as the owner desires, in any rooms.

Fifth, trouble caused by steam blowing past defective radiator traps can be largely eliminated, especially if the radiators are oversize and the trap bodies stay so cool after the orificing work is done that only air and relatively cool condensate flow through the radiator traps.

Sixth, in systems where vacuum pumps are used and there has been trouble of condensate flashing into steam after leaving the radiator traps, such trouble is eliminated by installing the orifices.

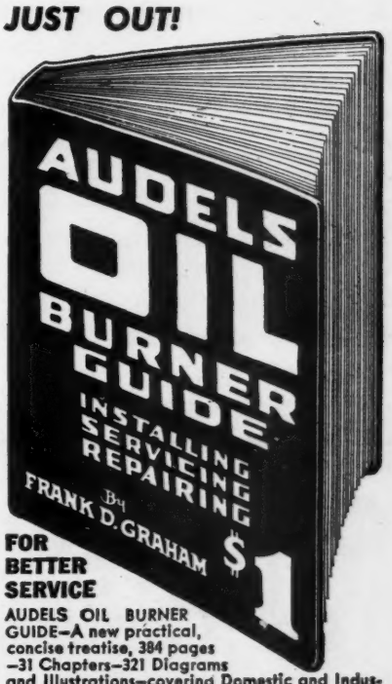
Seventh, the practically simultaneous flow of steam into each radiator, given by the orifices, results in excellent distribution of steam in the building with shorter "on" periods for the oilburner than usually give good steam distribution. As far as good steam distribution is concerned, "on" periods as short as ten minutes often may be used. From this aspect as well as from the aspect of employing a lower firing rate which gives steadier running of the oilburner, comfort is improved greatly through use of the orifices, since short "on" and "off" periods provide steadier heating.

Not every building which is heated by a two-pipe steam plant has oversize radiators, to be sure, and an equipment dealer should bear in mind that the maximum benefits of orificing as applied to oilfiring are enjoyed only where the radiators are oversize. For those buildings which have ordinary two-pipe steam plants and radiators considerably oversize, and there are many such buildings, installing the orifice discs in the radiator feed valves provides an easy and inexpensive way to greatly improved oilheating and considerably lower oil bills.

Norman A. Buckley has been added as a Special Research Assistant to the research staff of the warm air research program being conducted at the University of Illinois by National War Air Heating and Air Conditioning Association. He has been assigned the task of directing laboratory investigations in air flow, heat transfer and furnace blower research.

Ask to See It!

JUST OUT!



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Employed by_____ OB7

Sherwood on Gas Competition

(*Continued from page 60*)

In the matter of fully automatic fuel delivery, I believe that this can be accomplished to so closely duplicate the automatic fuel delivery with gas that the customer will not know the difference. In the case of our own Company, all of our installations are equipped with Ventalarms. Our trucks make delivery based on the degree day system, and in 95% of our individual cases the customer does not know that delivery is made, unless he happens to see or hear the truck. Our driver does not ring the door bell, nor does he leave a ticket after delivery. He does not enter the basement to measure the tank. He simply hooks up his hose, pumps until the whistle stops, and then moves on. Our trucks are equipped with ticket printing meters, and after the delivery computation is entered on the ticket, it goes back to the plant, and is then mailed to the customer.

We come now to the overall Industry matter of cooperation and joining together in presenting oil heat to a local community. *Good strong competition* between oil heating interests is highly desirable. Each one should carry on an aggressive advertising campaign. The sum total of this campaign piles up, and the public gets the impression that oil heat is the outstandingly acceptable automatic heating.

We happen to have, in Baltimore, a background of experience in this connection which seems to have produced results. In 1932 the Gas Company was giving us plenty of trouble. We then had two major operators enter the field, who reduced prices and gave five year free service and free parts warranties. We grew immediately. The Gas Company almost stopped in its growth.

Now, getting to the new builder field we find that an oil fired winter air conditioning unit with duct work costs the builder about $625.00. An equivalent gas installation costs him about $552.00. The Gas Company in Baltimore does other things, such as rendering engineering and sales assistance to the equipment man and the builder, and they also run gas mains into new developments free of charge.

Public Preference

Obviously, the builder's cost inclination is to install gas, but whether he installs gas or oil depends very largely on what the public wants when they buy the new house. Will the builder pay $73.00 more in his house cost to provide oil instead of gas? That depends upon public acceptance. It is, as we have already proven, to the buyer's advantage to choose oil, to the extent of about $23.00 per year.

In Baltimore, fortunately, we have built up a high acceptance for oil heat, and the new house buyer knows it to be more economical. He knows it to be reliable. He has not been confronted with the problem of purchasing the equipment initially, and the builder finds that the house is more salable with oil heat than with gas.

The Gas Company is, however, making a strong and strenuous effort to get back into this field again, and we have got to be very much on our toes all the time to realistically meet him at every turn.

I believe that oil heat can accept the challenge of gas and come out victorious, but, it means that oil heating has got to be presented in a mighty fine package, backed up with absolutely reliable service, both as to equipment and oil delivery, and the integrity of sponsoring organizations.

One Picture Is Worth Ten Thousand Words...

Silent-Flame Oil Burners are the product of 29 years of oil heating experience.

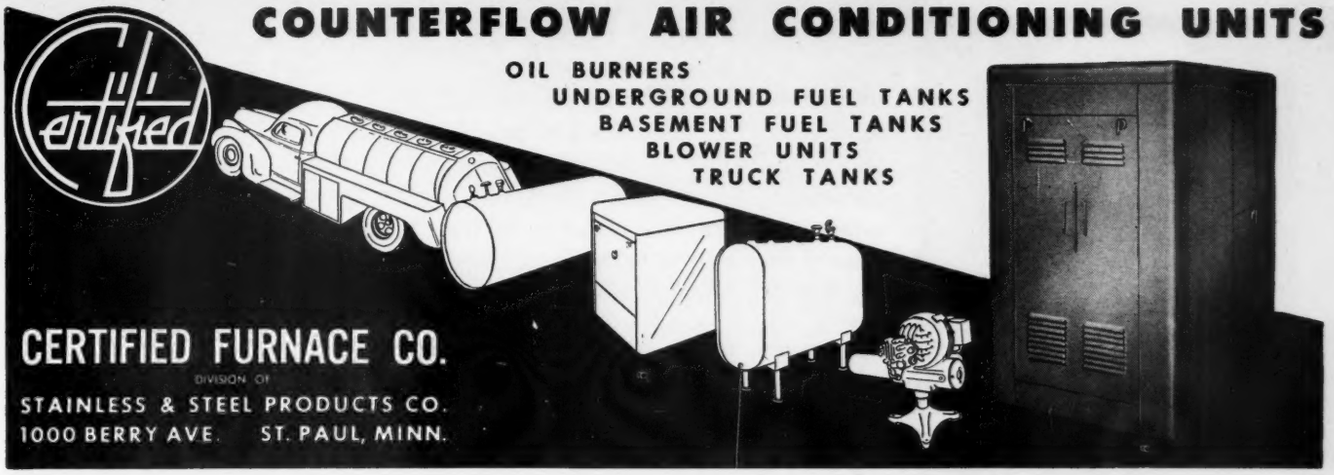
Models from 1 gallon-per-hour to 20 gallons-per-hour.

Standard Equipment.

Precision Built.

SILENT-FLAME MFG. CO., Inc.

807-15 Zerega Ave. **New York 61, N. Y.**



DEGREE DAY TABLES

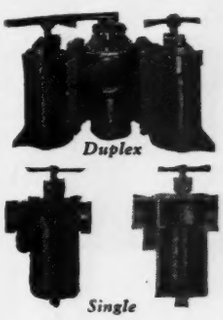
ONE MONTH ONLY — October					SEASON TO DATE — (Sept. 1 to Oct. 31)			
Normal	1945	1946	Percent Change*		Normal	1945	1946	Percent Change*
410	502	345	—15.9	Albany	526	613	436	—17.1
130	128	109	—16.2	Atlanta	142	128	123	—13.4
230	206	134	—41.7	Baltimore	264	225	145	—45.1
338	368	234	—30.8	Boston	436	439	297	—31.9
410	470	272	—33.7	Buffalo	535	595	381	—28.8
334	424	224	—32.9	Chicago	418	552	307	—26.6
274	292	155	—43.4	Cincinnati	326	315	169	—48.2
354	407	223	—37.0	Cleveland	446	483	235	—36.1
70	75	47	—32.9	Dallas	75	93	47	—37.3
415	345	521	+25.5	Denver	539	576	620	+15.0
357	386	275	—22.9	Des Moines	456	534	378	—17.1
387	433	228	—41.1	Detroit	496	542	313	—36.9
433	462	242	—44.1	Grand Rapids	559	612	336	—39.9
368	432	278	—24.5	Hartford	474	509	330	—30.4
601	486	814	+35.4	Helena	889	865	1127	+26.8
27	33	13	—51.9	Houston	...	33	13	...
299	402	153	—48.8	Indianapolis	364	460	206	—43.4
242	253	159	—34.3	Kansas City	292	315	196	—32.9
43	27	75	+74.4	Los Angeles	48	29	75	+56.3
218	238	140	—35.8	Louisville	252	250	159	—36.9
409	504	321	—21.5	Milwaukee	529	674	461	—12.9
484	506	433	—10.5	Minneapolis	647	733	628	— 2.9
23	8	0	...	New Orleans	...	8	0	...
274	276	142	—48.2	New York	325	309	161	—50.5
325	315	273	—16.0	Omaha	406	431	357	—12.1
236	365	176	—25.4	Philadelphia	272	403	197	—27.6
324	387	207	—36.1	Pittsburgh	393	449	253	—35.6
459	593	436	— 5.0	Portland, Me.	638	771	582	— 8.8
298	332	442	+48.3	Portland, Ore.	407	470	558	+37.1
363	408	273	—24.8	Providence	467	485	323	—30.8
218	259	150	—31.2	St. Louis	254	313	179	—29.5
377	307	579	+53.6	Salt Lake City	472	518	716	+51.7
140	154	223	+59.3	San Francisco	262	255	330	+26.0
614	669	502	—18.3	Sault Ste. Marie	895	1023	788	—12.0
372	359	483	+29.8	Seattle	546	581	633	+15.9
369	452	249	—32.5	Toledo	467	544	328	—29.8
254	240	138	—45.7	Washington	297	256	149	—49.8

* Compared with normal.

KRAISSL
FILTERS
STRAINERS
PUMPS
Keep Fuel Oil Lines Open and Active

Year-in, year-out performance proves the skill of KRAISSL engineering design and the honesty of KRAISSL manufacture.

Class 72 Strainers and Filters



Single and Duplex types for suction or discharge service — any practical degree of filtration in units designed for low pressures as well as up to 500 lbs. hydrostatic test—easily removable filter basket insures quick cleaning.

Class 60 Heavy Oil Pumps

Standard equipment wherever independent pump and motor sets or booster pumps for pump-type burners are required.

Submit your fuel-line problems to KRAISSL engineers—literature and prices on request.

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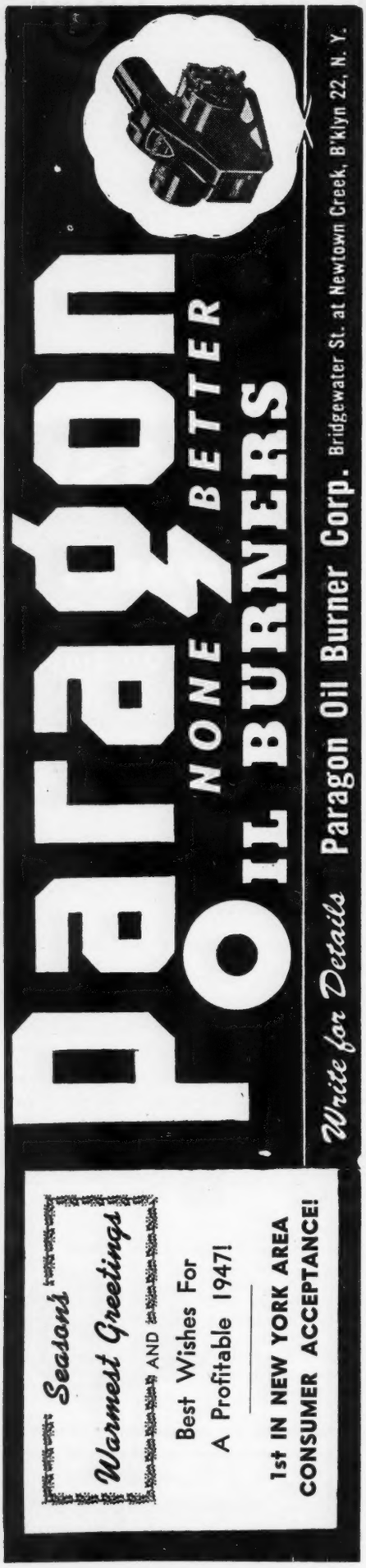
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NONE BETTER
OIL BURNERS
Write for Details
Paragon Oil Burner Corp. Bridgewater St. at Newtown Creek, B'klyn 22, N. Y.
Seasons Warmest Greetings AND
Best Wishes For A Profitable 1947!
1st IN NEW YORK AREA CONSUMER ACCEPTANCE!

Fox on Fueloil Branding

(*Continued from page 60*)

the full potentialities of oil heating can be more nearly realized in actual use. To raise the efficiency of combustion from 60 per cent to 75 per cent would produce a saving equivalent to a reduction in the price of fuel oil from 9 cents a gallon to 7.2 cents. The possibilities of effecting oil heating economies seem to be greater in burner design than in lower fuel oil prices. The petroleum chemist has a real responsibility of passing on basic research data on the burning of distillates to the engineers of oil burner manufacturers.

I believe that there are quite a number of other ways in which large petroleum refiners can and should assist the dealers and distributors of oil heating, and since other speakers have touched on the importance of oil burner service, I will use that as one illustration. The oil refiner, through his frequent contacts with the actual merchants of oil heating and his much greater share of the oil heating dollar as compared to the oil burner manufacturer, has a responsibility not only of encouraging better burner service but also of providing definite assistance in making it available. He should use his laboratories, technicians, and training experts to make training aids and courses available to service men. If you question the need for such training aids, I would suggest that you let your own distributors and dealers answer. A word of caution, however, from the company I represent: you had better be well prepared with textbooks, charts, slide films, demonstration equipment, class rooms, and above all, a sufficient number of competent lecturers, or you will be swamped.

I have touched on only a few of the more important things a refiner should do towards wrapping up the oil heating business in a more saleable package if he is really interested in oil heating. After that is done there is still the problem of selling it to the public. Notwithstanding the sellers' market we are experiencing today, there is reason to believe that the productive capacity of this oil heating industry will soon outstrip any ordinary demand. Such is the history of every industry in this country. The high standard of heating comfort and convenience to be obtained from oil heating will have to be sold to millions of people. We are not only competing with other types of fuels but we will also be competing with other durable goods industries for the limited amount of dollars in the hands of great numbers of people. We must tell this story of oil heating in a simple manner—but effectively. It seems to me the advertising of a branded fuel oil is the most practical manner for an oil refiner to assist in promoting oil heating.

Our Advertising Department has furnished me with data indicating that the consuming public prefers to buy branded products. I am not going to bore you with a lot of statistics on this subject, but will give you a few of the conclusions drawn from experience and many consumer surveys.

1. The public has demonstrated time and again that it wishes to select product

and services through brand or trademark identification. It is not interested in technical specifications and has little confidence in any governmental bureau rating system.

2. A well established brand name is synonymous with a "*Quarity* Product" in the minds of most consumers.

3. Most people assume branded products are of *uniform* quality—largely be-

Over a third of a Century FAITHFUL PERFORMANCE

Listed by Underwriters' Laboratories, Inc. To Burn No. 3 Oil (Diesel) or lighter

KRESKY offers future profits to DEALERS

A pioneer among oil burners Kresky finds such an unprecedented demand today that we are forced to limit shipments to old established dealers. Nevertheless new franchises are being granted now to farsighted dealers who see in Kresky's present oversold condition the promise of future opportunity. ★ The versatile Kresky line is a year round money maker due to its wide applications—heating, cooking and industrial. It includes Conversion Burners, Floor Furnaces, Forced Air Units, Range Burners and Water Heaters. *Write for Kresky Dealer Plan.*

Kresky Oil BURNERS

KRESKY MANUFACTURING COMPANY

Pioneers in Oil Burning Equipment Since 1910

HEATING • COOKING • HOT WATER • INDUSTRIAL

PETALUMA, CALIFORNIA

GORTON SYSTEM

of

Equalizing and Vaporizing
Existing Steam Heating Systems
for
Automatic Heating

Guaranteed to heat all radiators evenly and quickly on 4 to 8 ounces vapor pressure—no piping changes required.

Prompt Shipments

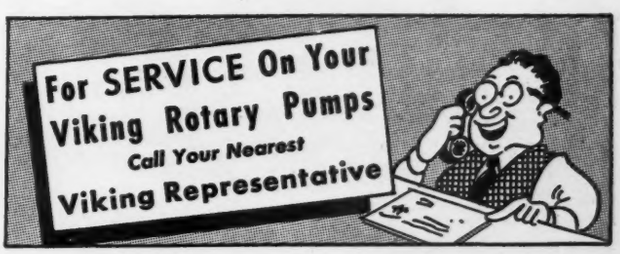
Write for new Bulletin No. 114

GORTON HEATING CORP.

Since 1887—Mfrs. Heating Equipment

CRANFORD **NEW JERSEY**

fuel oil & oil heat



The Viking Pump Company is represented by a nation-wide sales and service organization in key cities from coast to coast . . . from Canada to the Gulf. Is your pumping installation operating at high efficiency? Do you have a pump maintenance problem? Write or call the Viking representative nearest your plant for service.

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LOS ANGELES 21
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C. F. Mullens
610 West Michigan St.
Phone Daly 0807

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Wallace Stebbins Company
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BIRMINGHAM
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Leon C. Gadbois
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VIKING PUMPS — FIRST IN AMERICA

See Our Catalog In SWEETS

VIKING Pump COMPANY
CEDAR FALLS, IOWA

cause such products are uniformly packaged and come in containers of uniform size. Uniformly painted fuel oil trucks, big brand name display, meter service and the assurance of "full measure" do the same job for a *branded* fuel oil that a uniform, branded container does for a can of beans. It implies uniform quality and builds public confidence in both the product and the dealer selling it.

4. Instinctively, the public associates branded products with stability and safe financial backing.

5. People *like* to know what they are getting. When they buy a branded product, they *know* what they are getting. Result: Greater consumer satisfaction—acceptance before they even buy the product—less chance of complaint about the product—less chance of the merchandise bouncing back in the dealer's lap.

6. The moment a nationally known concern puts its brand name on a product, that name carries the assurance that the manufacturer is standing back of the product as well as the dealer selling it. Result: The public naturally has more confidence in that product.

7. Brand names of fuel oils build up wider and quicker recognition of oil heating—particularly when they are widely advertised, promoted, and displayed.

8. A well established, well publicized brand name is *easier* for the dealer's customers to remember—*easier* for the dealer to sell.

9. Strong product identity—through both national and local advertising—means stronger competitive advantages for the dealer.

10. The moment a product is branded, it offers big opportunities for advertising, promotion and display that no unbranded product offers. No one, for example, has ever heard of a campaign plugging good old "#2 Fuel Oil."

11. National or regional advertising provides the means to a refiner to tell a uniform story.

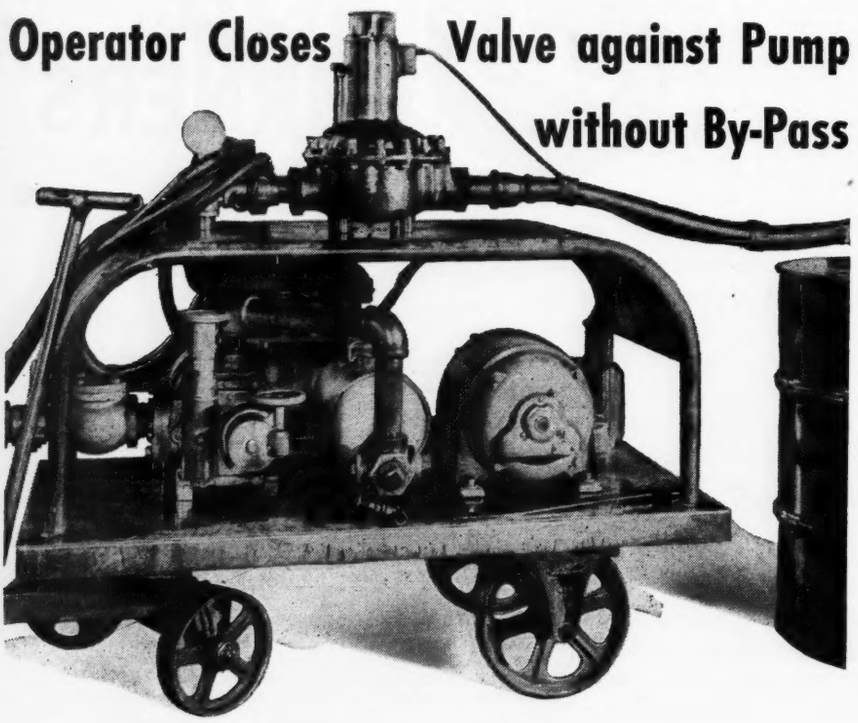
12. A brand name offers the dealer opportunities for big name displays on his trucks, buildings, equipment, road signs, billboards, letterheads, billheads and envelope stuffers. Displaying anything as nebulous as "#2 Fuel Oil" just isn't done.

These established reasons for branding a product apply equally as well to home heating oils as any other product. Certainly, it is just as important to brand the fuel oil as to brand the oil burner. A fuel oil brand backed up with aggressive advertising and sales promotion provides a wider public recognition for the oil heating dealer and his products—more customers, more sales, heavier volume, greater profits.

Still more important is the cumulative effect of all the campaigns of a number of companies to build consumer acceptance for their fuel oil brands. I have seen the campaigns of four or five large refiners this year and each has headlined the advantages, comfort and satisfaction to be obtained from *oil heating*. I would like to repeat here a paragraph from Mr. Sherwood's talk.

"We come now to the overall Industry matter of cooperation and joining together in presenting oil heat to a local community. Good strong competition between oil heating interests is highly desirable. Each one should carry on an aggressive advertising campaign. The sum total of this campaign piles up, and the public gets the impression that oil heat is the outstandingly acceptable form of automatic heating."

Operator Closes Valve against Pump without By-Pass



***—the reason Tide Water selected* Tri-Rotor Pumps *by* Yale & Towne**

● Because it is the only low pressure pump having a positive displacement against which the discharge line can be closed without requiring a relief or by-pass valve in the line, the Bayonne Refinery of Tide Water Associated Oil Company selected the Yale & Towne TRI-ROTOR Pump for filling lubricating oil drums. The variable volume control feature eliminates need for relief valve or by-pass in line.

In another Tide Water installation, a Tri-Rotor Pump is used in filling grease drums.

In addition to the positive handling characteristics of a piston pump, TRI-ROTOR also offers the high volumetric efficiency of a rotary pump. Variable volume control also reduces over-heating, chewing, foaming or agitating the product. With only three moving parts, maintenance is kept at a minimum.

Three head styles: Solid, By-Pass, Variable Volume—optional for all truck pump installations. Sizes—5 G. P. M. to 200 G. P. M.

Send specifications for your pump requirements to the Yale & Towne Manufacturing Company, 213 Henry Street, Stamford, Conn.

ECONOMICAL—Rotary Action • PROTECTIVE—Piston Action

ONLY YALE *GIVES YOU BOTH* IN ONE PUMP

TRADE YALE MARK
PUMP DIVISION

MAKERS OF THE FAMOUS YALE LINES OF LOCKS, HARDWARE AND INDUSTRIAL TRUCKS

3 Good GAUGES
FULL
3/4
1/2
1/4
MT.
RANGE
Designed to fit 1½" or 2" openings on all 55 gal. storage tanks.
Patented MEL OIL GAUGES are unaffected by atmosphere . . . vacuum sealed against leakage . . . furnished with all metal rotating floats . . . readings furnished in two colors printed on plastic tube . . . made of the finest materials available . . . moderately priced due to specialized quantity production . . . carry a factory guarantee. Available for immediate deliveries.
SAUSAGE
No mechanical movements. Can not get out of order. Guaranteed for life of tank.
ADJUSTABLE
For quick, accurate reading of tank contents at all times from any direction.
Mel-Gauge COMPANY
EAST HAVEN, CONNECTICUT

SEE THE NEW

Johnson

ECONOLUX

IN *Action*

AT THE

CLEVELAND EXPOSITION

Jan. 27-31

It's well worth seeing! . . . Though it's only 24" x 60" in size, this amazing new Econolux furnishes ample heat and faucet hotwater for 8 to 10 room homes. For owner and installer alike . . . it offers a happy solution to many domestic heating problems. Be sure to see it at the Johnson Booth. There'll be some of those famous Johnson heavy-duty burners, water heaters, Bankheat Burners, etc., on exhibit too. If you go to Cleveland . . . make it a point to visit the Johnson burner booth.

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S. T. JOHNSON CO.
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401 No. Broad St., Philadelphia 8, Pa.

FUELTONE

TONES UP FUEL OIL

Disperses these enemies of good combustion, making entire tank of oil UNIFORM AND USABLE!

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HEAVY ENDS
MOISTURE
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ACIDS

- Prevents clogging of lines and strainers. Improves atomization, starting and general boiler operation.
- FUELTONE has treated many millions of gallons of fuel oil. *It has never been known to fail!*
- ECONOMICAL—Merely use 1 pt. to 250 gals. of oil initially. Thereafter—1 pt. to 1,000 gals.

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- Soot Remover In Gun Ready to Use

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- Stops Boiler Leaks

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OIL SOOT **E-Z** DESTROYER

Cuts Fuel Oil Waste —

Increases Heating Efficiency

Simply apply E-Z, and the soot in fire chamber and flues vanishes instantly.

Soot cuts down heating efficiency and requires more oil to give the desired amount of heat.

Try E-Z once and you will be convinced it is the quickest, easiest and most economical way of soot removal.

Makes Satisfied Customers.

DISTRIBUTORS: Write for Proposition.

HEALY-RUFF COMPANY 797 Hampden Ave. St. Paul, Minn.

Enclosed find check ( ) money order ( ) Send the following prepaid:

No. 1 pkg. $1.00
No. 5 pkg. $4.50

Name .....
Address .....
City ..... State.....

While the oil heating industry has great responsibilities in providing an essential public service, it is not a public utility industry. It is not practical or desirable to use the methods of public utility companies. In no other industry is competition more keen than between oil burner manufacturers and between fuel oil refiners and between their dealers and distributors.

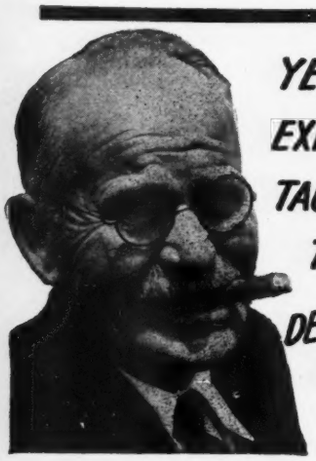
Within such a competitive system, the most practical method for a fuel oil refiner to promote oil heating is to brand his product and back that brand with an aggressive promotional program.

Many Gas Utilities Refusing Heating Jobs

GAS UTILITIES in at least two dozen cities, Buffalo the most recent, have found it necessary to refuse further customers for home heating until such time as they can enlarge their facilities for either making or distributing the fuel. With the manufactured gas companies the restriction in most cases will last for only about six months, to put them past this heating season. The natural gas companies are less fortunate, for they must run new lines from the distant fields and in some instances this will take three years.

The fact that these utilities have had to shut off taking new customers works to the advantage of oilheating in two ways. More oilheating jobs can be installed in the strong gas areas while gas is temporarily stymied; more important, the effects of this winter's gas restriction may be remembered for a long time by gas heating users and gas heating prospects, for it spotlights the fact that gas as a fuel is vulnerable to supply shortages because it is confined by the dimensions of a pipe which can get overloaded.

Two New York utilities, Consolidated Edison and the Westchester Lighting Company, have petitioned the Public Service Commission for permission to increase the heating value of their gas from the present 537 Btu to 600 Btu, and increase rates in proportion. It was argued that present adjustments of gas burning equipment would not have to be changed, but that 14 per cent less gas would be used to do the same job. The resulting reduction in volume of gas required, it was indicated, may enable the utilities to supply gas to an estimated 4,300 new users of gas for space heating who will be on the companies' lines this winter. It also was pointed that the increase in heat value would save the companies about $4,000,000 in improvements on the distributing systems.



YEARS OF EXPERIENCE TAUGHT ME TO USE DEPENDABLE GAUGES. THAT'S WHY I RECOMMEND ONLY

LEVELOMETER
Tank Gauges

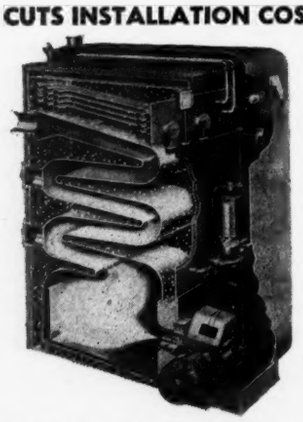
These trustworthy gauges eliminate guess work and offer convenient remote readings... as well as assuring greater protection against overflowing oil tanks. Consequently, Levelometer tank gauges save service calls and offer greater customer satisfaction all around. Little wonder, Levelometer is the choice of dealers who insist upon dependable oil tank gauges.

Midget LEVELOMETER
Lowest priced Remote Reading Gauge built

"Liquids Worth Storing Are Worth Measuring"

THE LIQUIDOMETER CORP
36-19 SKILLMAN AVE., LONG ISLAND CITY, N.Y.

CUTS INSTALLATION COSTS



PACKAGED HEAT

Only oil-burning boiler delivered with *controls, burner and circulator mounted and wired at factory!* You just "pick it up . . set it down . . . plug it in!"

Canadian Distributor: Actrite Equipment Company, 768 St. Paul St., W., Montreal 3, Can.

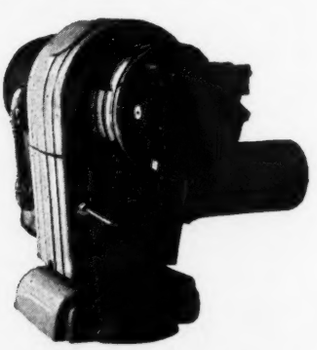
PENN BOILER & BURNER MFG. CORP.
LANCASTER, PENNSYLVANIA

Different!
Exclusive!
Field Tested!

"Quiet Flame"
with
"BAFFLED CONTROLLED AIR"

This patented Burner baffle construction and design featuring, "BAFFLED CONTROLLED AIR," creating an economical "NEW QUIET FLAME PRINCIPLE," is a money maker, an ideal Burner for mass sales.

Available for hot air furnaces and flanged boiler units. Capacity ¾ gal. to 20 gal.



Quiet Flame Burner Co.
3614 E. Tremont Ave.
New York 61, N. Y.

NOW

NATIONWIDE SALES AND SERVICE FOR BALLOFFET NOZZLES

MADE BY

DELAVAN ENGINEERING CO.

DES MOINES, IOWA

(under exclusive license from Balloffet)

To facilitate increased sales and service, BALLOFFET has expanded its facilities and arranged for DELAVAN ENGINEERING CO. to manufacture and sell BALLOFFET NOZZLES throughout the UNITED STATES.

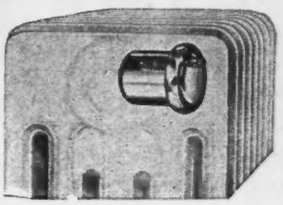
You can be assured of dependable, efficient cooperation and the same high standard quality product by now ordering your BALLOFFET NOZZLES from DELAVAN. Literature upon request.

Precision Drillers since 1870

BALLOFFET DIES AND NOZZLE CO., INC.

6825 ADAMS STREET GUTTENBERG N J

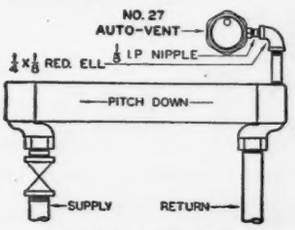
NO MORE AIR-BOUND RADIATORS



WITH THE *NEW* AUTO-VENT AIR ELIMINATOR

Install the No. 27 Auto-Vent Air Eliminator on all Hot Water radiators and convectors and release that invisible Air Brake that retards circulation. As air accumulates in the radiators or pipe lines it is automatically vented, assuring perfect circulation throughout the system at all times. You get more even heat and use less fuel.

No. 27 can be installed on convectors, baseboard radiation panels, radiant heating coils, etc., without the use of an air chamber. For pressures up to 50 lbs.



No. 27 Auto-Vent Installed on Convector Radiator

Ask your jobber

PLAY SAFE—USE THEM ON EVERY JOB

MAID-O'-MIST INC.

3221 NORTH PULASKI ROAD

CHICAGO 41 ILLINOIS

AUTOMATIC HUMIDIFIERS

FOR ALL TYPES OF HEATING SYSTEMS

DEALERS and USERS ENTHUSE

OVER THE AUTOMATIC

TEESDALE T.U.X. OIL PUMP

"HEART-BEAT OF THE BURNER'S OIL FLOW"

Capacity 30 Gallons per Hour

- Silent and Leak-proof
- Vapor and Oil Tight
- Trouble-free
- Self-Priming
- All Parts Interchangeable

Passed by the UNDERWRITERS

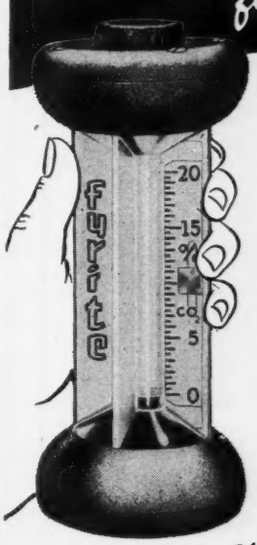
WRITE FOR FRANCHISE DETAILS

TEESDALE MFG. CO.

427 Market Avenue

GRAND RAPIDS 3, MICHIGAN

The Standard SERVICE INSTRUMENTS *for Heating Men*



The FYRITE CO_2 Indicator at the left, with the DRAFTRITE Draft Gauge below and our 100° to 950°F. Thermometer, make a handy, economical combustion testing set that has everything you need for oil burner service and installation tests.

Such tests are not only powerful selling aids for the alert heating man—they are now required by nationally-accepted codes such as FHA Minimum Construction Requirements, OHI Installation Recommendations, Massachusetts Oil Burner Ordinance, and Department of Commerce Commercial Standards.

Your jobber can probably show you these instruments. If not, send us his name and ask for Leaflet 701 which gives complete particulars.

Used by More Than 20,000 Heating Men!

BACHARACH INDUSTRIAL INSTRUMENT CO.

7000 BENNETT STREET, PITTSBURGH 8, PA.

MEMBER OHI OIL-HEAT INSTITUTE OF AMERICA

So Far, So Good

(*Continued from page 37*)

answer is, we don't know right now. We do know that this case is going to be checked into from every angle and we have every confidence that, whatever the answer, there will be a healthier regard for scientific selection on the part of everyone concerned.

One of the fine things about the program is that even when it occasionally misses fire, there is a benefit. It results in the dealer delving into the subject more thoroughly and, when he does, he invariably gains a greater respect for scientific selection and a greater awareness of the fact that as much depends upon him and his commonsense as on the procedure itself.

* * *

As the head of this article says, "So far, so good."

We are encouraged by the interested, intelligent reception dealers have given the subject of scientific selection and predict nothing but success for it as it applies to the business of selling Timken oil heating equipment. Both we and our dealers are learning a lot (and having fun in the process), and have even more to learn when sales forces again must be added to and selling again becomes a matter of pushing forward instead of pulling back.

If others are considering a plunge into scientific selection, we say, "come on in—the water's fine." And we hope others will, for just as the general level of any sport is raised when good teams compete against good teams, so will the general level of the oil heating business be raised when each individual salesman has been intelligently selected and is the best man that can be obtained for the job.

◈

E. J. Gossett, president, Bell & Gossett Co., Morton Grove, Ill., has been appointed chairman of the Operating Committee, Plumbing and Heating Industries Bureau. *Martin Weil,* president, Weil-McClain Co., Chicago, has been reappointed chairman of the Bureau's Finance Committee. *E. N. McDonnell,* president, McDonnell & Miller, Chicago, Ill., is a member of both committees.

Oilheating Trends

(*Continued from page 11*)

broken within the past month. All of this poses a question as to whether the fueloil distributor would keep his bulk stocks high, average or low. In the cities where prices have broken there is considerable confusion over what is the best course to follow, but the consensus seems to be that average stocks, neither high nor low, are best. In the cities where prices have not broken, 69% of the fueloil distributors are keeping their bulk stocks as high as possible, obviously anticipating firm future prices. Only 8% are operating with minimum bulk stocks, and the remaining 23% are maintaining average stocks, not concerned one way or the other over impending price changes.

Dealers Say . . .

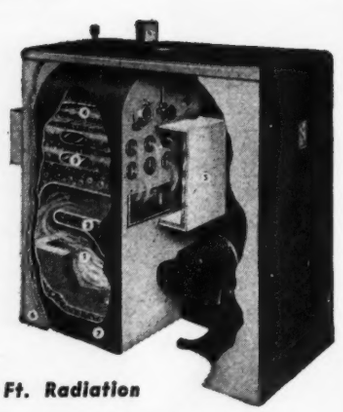
DEALER COMMENTS: Typical comments on the various questions of the month are . . . "We have about exhausted our motor and transformer stocks, so are pessimistic about burner deliveries in the future." . . . "We have enough service work for this winter, so to hell with paying these crazy prices for burners and tanks; we'll make no more installations

THE NEW YORKER

HERE'S the STEEL BOILER for LONG LIFE AND QUIET OPERATION

ALL STEEL, RESIDENCE
OIL BURNING BOILER

The tubes of this boiler are extra heavy. The tube wall thickness is one quarter inch, the same thickness as the boiler plate. This makes tube replacement unnecessary and gives whole boiler exceeding long life.



400 to 1100 Sq. Ft. Radiation

BUILT TO EXCEL IN DEPENDABILITY, LONG LIFE, AND LOW OPERATING COST

TITUSVILLE SALES COMPANY INC.

50 WEST 50th ST., NEW YORK
Circle 6-2861

Parakem
SLUDGE REMOVER
FOR
GREATER PROFITS!

The Fuel Oil Conditioner Backed By More Than 100,000,000 Gallons of Fuel Oil Experience

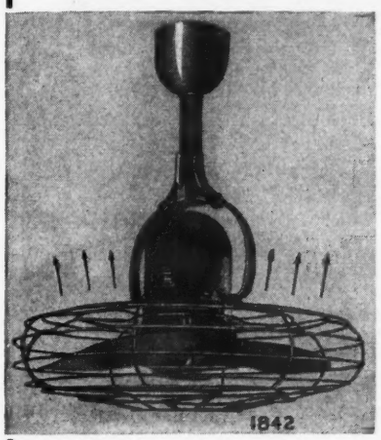
Gives you repeat business—your customers need Parakem to prevent sludge deposits in the storage tank, lines and oil burner. Parakem improves atomization, allows quicker starting — results in a brighter, cleaner flame.
Parakem is specially priced for resale by dealers at good mark-up.

Sold in one and 5 Gallon Cans
—15, 30 and 53 Gallon Drums

Write for complete details and prices TODAY!

Paragon Oil Company
75 Bridgewater Street Brooklyn 22, N. Y.

SATISFY YOUR CUSTOMERS AND MAKE MORE MONEY



Reco

RADI-AIRE

HEAT CIRCULATOR FAN

CEILING MODEL

THIS remarkable fan, operating on a revolutionary, new principle, provides comfortable temperature for hard-to-heat rooms. Prevents wall streaking and air stratification. Dissipates odors, smoke and gases like magic.

You can please your customer and increase your profits by installing this amazing fan. Operates at slow speed without draft.

Supplied in various sizes in high stand, ceiling and table models. Has year-around use.

Write for prices, discounts and descriptive folder No. 221A.

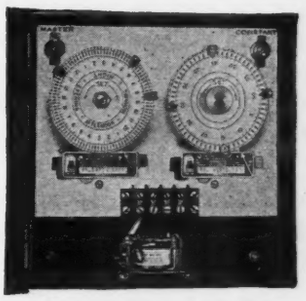
Established 1900

REYNOLDS ELECTRIC COMPANY

2611 W. CONGRESS STREET — CHICAGO 12, ILLINOIS

AUTOMATIC HEATING CONTROL

For Apartment Houses with



TORK TYMOTHERM

Thermostats seldom practical in apartment houses; sell "scheduled heat" with TORK TYMOTHERM. Provides continuous early morning operation to maintain "warm-up" period—then changes to intermittent operation to maintain comfort *economically* until night shut-down. For oil, gas, or coal. Fully automatic—all operations fully adjustable.

Model 197N/61R Single pole 115 V, 60 C, 6 Amp $45.00

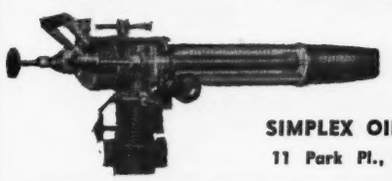
Write for Complete Bulletins

THE TORK CLOCK COMPANY, Inc.

2 Grove Street, Mt. Vernon, N. Y.

Since SIMPLEX OIL HEATING CORPORATION — SIMPLEX — OIL BURNING SYSTEMS — REG. TRADE MARK *1910*

Simplex Oil Burning Systems



RESULTS COUNT!

SIMPLEX OIL HEATING CORP.

11 Park Pl., New York 7, N. Y.

COMBUSTION CHAMBERS

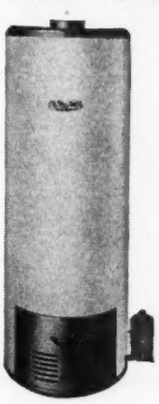
BAFFLES

Quality Since 1937

IRON-HIDE REFRACTORY PRODUCTS

MATAWAN, N. J.

The VIKING Water Heater



Amost efficient, fully automatic fuel-oil burning water heater. 20—30—45 gallon capacities. Recovery rates to 45 gallon per hour, 100 degree rise. White baked enamel with black trim. One of Viking's complete line of Furnaces, Space Heaters and year round Air Conditioning Equipment. Write for details.

THE VIKING MFG. CORPORATION

1747 Chester Ave. — Cleveland 14, Ohio

We Have

OIL BURNER IGNITION TRANSFORMERS OF

110 Volt Primary

10,000 Volt Secondary

To trade for Oil Burner Pumps of Clockwise rotation.

LEWIS MANUFACTURING CO.

214 W. ONTARIO ST. — CHICAGO, ILL.

Phone Diversey 2975

until prices drop." . . . "Things are still so tough that we are getting fed up." . . . "Circulators and pipe fittings are extremely scarce." . . . "All of a sudden there seems to be plenty of burners around at $150 to $175 complete." . . . "Oil supplies in the Pacific Northwest have been low, just the opposite to the rest of the country, and the season is also considerably colder than normal." . . . "Any dealer that will make partial installations has no respect for the future of the industry." . . . "The C.P.A. priority system is very impractical, and if carried out to the letter would put every oilburner organization out of business." . . . "1182 oilburner permits issued in Philadelphia in October; more than half of these are by small operators selling very poor equipment. We are getting an ordinance through to license operators and will put the clamps on a lot of these boys." . . . "We have made about 12 to 15 new installations with second-hand burners just temporarily until new burners come in. Otherwise all new material is used in the installation. In this case, we request the customer to pay 50% of the amount of the contract until the new burner is installed.

Advertising Indicates Burners More Plentiful

WHILE NUMEROUS dealers are still asking where they can get some burners, others seem to be quite comfortably fixed, based on their advertising of recent weeks. In New York suburbs numerous dealers are advertising burners available for immediate installation . . . have been doing it for two to four weeks. In a Nov. 11 issue of "Newsday," published in Nassau County, N. Y. (Long Island), six burner dealers advertised immediate installations. Some of them were large, reputable dealers and obviously meant what they said.

About a week later six more dealers used the same paper in one day, all offering immediate installation, and one specifying "installation within 7 days." But a new element had appeared in the later retail advertising. Two of the advertisers showed big, black $395 prices in their ads, and one offered a complete installation for $275. Four of the six advertisers featured "No Down Payment—3 Years to Pay," to lure the hesitant prospect into placing an order.

The aggressive trend is far from unanimous, but there are definite and clear signs of a growing consciousness on the part of dealers that the battle for orders is not far in the future. Many areas still are short of burners, and most areas are short of one or more installation materials. Regardless of shortages and their other problems, dealers are definitely starting again to sell.

◈

Express Rates Up

ON DECEMBER 13, 1946 a new scale of express rates will become effective at all 23,000 offices of the Railway Express Agency, the company has announced. Based on a recent decision of the Interstate Commerce Commission the new rates represent increases which are intended to permit the Express Agency to meet the higher wage scales which have been in effect since January 1, 1946 and to offset the higher costs of materials, equipment and rents.

New rates will represent an increase of 20 cents per 100 lbs. on first class and 15 cents per 100 lbs. on second class rates; with increases in minimum and graduated charges for packages weighing less than 100 lbs. No increase is proposed on rates for daily newspapers, milk and related products.

NEW SKUTTLE AUTOMATIC HUMIDIFIER Series 500

Large Inspection Door and frame may be mounted at any location on the furnace bonnet.

Adjustable Collar fits either sloping or vertical bonnets.

Drawn-Steel Vitreous Enamel Pan construction is entirely without welding. No seams whatever.

Length of pan sizes are 12", 16", 20", 24" and 28". Fully adjustable to fit odd sizes.

For Greater Humidity, use the No. 590 Vapoglas Plates with the series 500 Humidifier.

4099 BEAUFAIT — Skuttle Mfg. Co. — DETROIT 7, MICH.

IMMEDIATE SHIPMENT
FROM STOCK
LOW-WATER CUTOFFS

WATER GLASS TYPE
50 or more $9.50
Write us for smaller quotations on quantities
With Quick Hook-up Fittings and Drain Cock

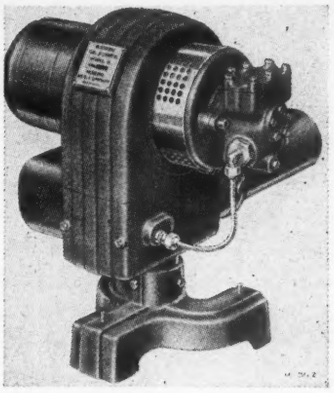
2½" TYPE
36 or more $8.50
Uses 2½ close to 6" Nipple with Drain Cock

IGNITION CABLE
100' Roll
$5.50
Approved 10,000 volts

50 ass't Solderless Ignition Terminals
$12.50
No tools needed

We carry a complete line of controls and accessories

ATLANTIC
BURNER SUPPLY CO., INC.
"Everything for the trade"
100-05 ATLANTIC AVENUE, RICHMOND HILL 18, NEW YORK



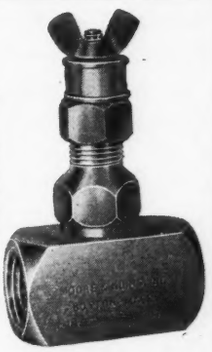
MARINE SALES COMPANY

SALES AGENCY FOR

Marine Manufacturing Company
1757-63 N. North Park Avenue
Chicago 14, Illinois

A PROFITABLE EASY-TO-SERVICE BURNER
FOR YOUR FUTURE
AVAILABLE AGAIN THROUGH OUR DISTRIBUTORS

Automatic Fusible Line Valve

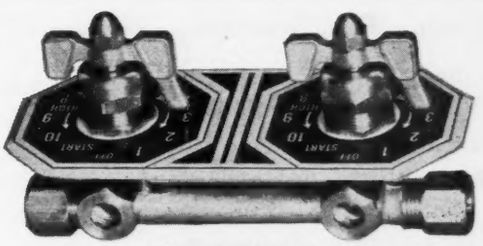


A combination shut-off valve and fusible link for oil burner installations. Self-contained automatic type—no chain, pulley, hook or weight required. Held open by fusible device against a spring. Can be manually operated—horizontal or vertical position.

Globe type valve made from brass bar stock, metal to metal seat and disc construction. Easily installed—no adjustments required.

Made in ⅜", ½", ¾" and 1" sizes.

MOORE and KLING Inc.
221 High Street — Boston, Mass.



Manufacturers of

Oil Burner Metering Valves
with unvarying accuracy of flow

OIL BURNER DEVICES, INC.
79 BEACON ST. — WORCESTER 8, MASS.
MERIT OIL BURNER DEVICES, INC.
489 5th Ave. — New York City

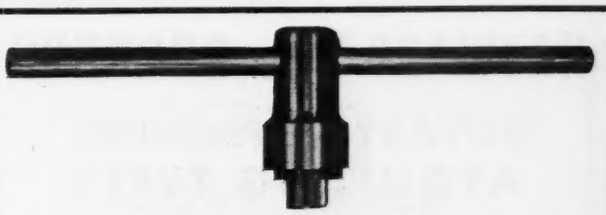
M&L TANKLESS WATER HEATERS

Internal types built in all sizes and shapes to fit your boiler.

COIL, ROUND, OFFSET, SPOOL, PANCAKE,
OVAL, PEAR SHAPED OR STANDARD

Immediate Deliveries

Manning & Lewis Engineering Co.
28-42 OGDEN ST. — NEWARK 4, N. J.



New Bellows Wrench

for Detroit Pressure Regulating Valves

For easy and faster servicing. Features an all-position 10" "T" handle. Position by turning knurled pilot which also helps in loosening stubborn retainer nuts. Made of hardened steel for extra strength and cadmium plated. PRICE $3.45. Available from your wholesale supplier or jobber.

HYDROVALVE CO., 262 W. 38th St., New York 18, N. Y.

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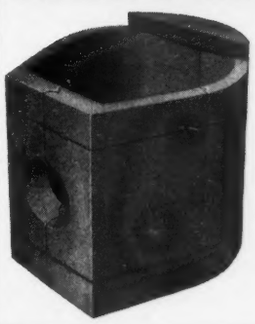
truly TIME-TESTED

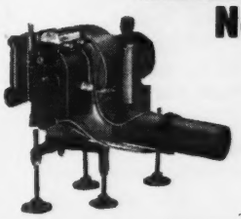


PATENT NO. 2075433

LITE-CAST
IS STILL
THE LEADER
SEE YOUR JOBBER

Monogram Combustion Chamber Co.
PHILADELPHIA 4, PA.

★ RAYFIELD AUTOMATIC ★



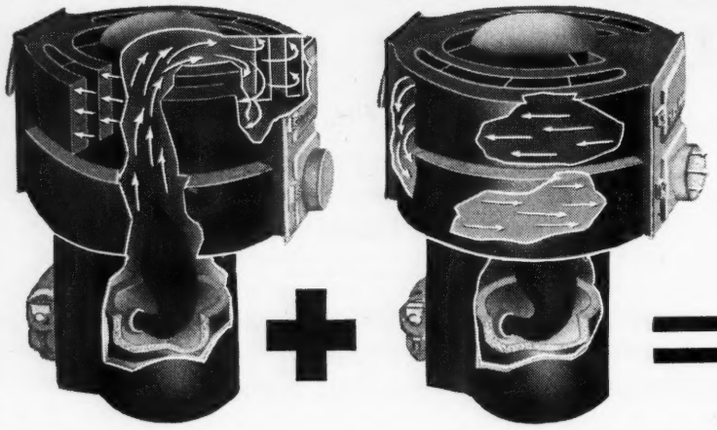
No. 5 OIL BURNERS

REDUCE HEATING COSTS...
INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self contained, all electric. Self-lubricating. Many new exclusive features. Write for full details

GOOD TERRITORIES OPEN

C. L. RAYFIELD CO.
2010-18 S. Halsted St., Chicago 8, Ill.



RADIATION FURNACE CORP.

BENTON HARBOR, MICHIGAN

DESIGN

FOR

=Efficiency

FULLY AUTOMATIC — SMART CABINET

Oilheating Talk Sessions

(*Continued from page 44*)

equalize charges on an actuarial basis.

D. Spot studies throughout the Northeast with companies having well-organized service divisions to obtain figures similar to the spot study presented at the Round Tables. A larger sample would be reassuring as to the spot study's accuracy of findings.

3. The very real importance of developing public relations through the burner service division is being neglected by many marketers. While emphasis is necessary on additional skill on the part of mechanics, just as much if not more is needed in training these same men to handle public relations. Oilburner service division managers and staff must be considered as salesmen and be under an executive who is sales minded. Policies for the division must embrace the idea that burner service is part of a package, the package being "automatic heat."

4. The branding of fueloil, to be successful, must brand the "package" and not merely the oil.

5. The selection of distributors to carry a brand must be more discriminating than it has been to date in the markets where meetings were held.

6. The whole brand subject needs more and more objective thinking. With distillate oil as a primary product at refinery level, can we expect anything else than the same brand development that has occurred in gasoline? Does this mean branded franchise jobbers selling at retail

HAYWARD OIL BURNERS

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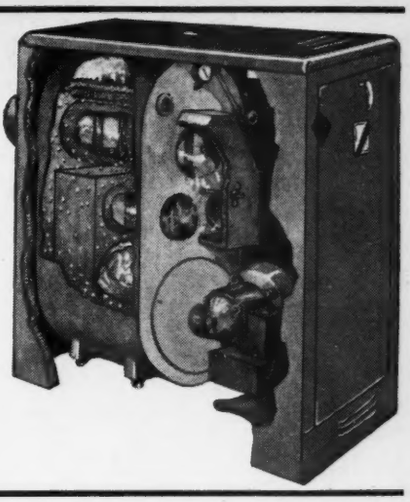

to the exclusion of independent operators who now dominate the fueloil retail sales pattern? If so, is the change desirable to the ultimate consumer and to the Industry? If this is not so, what is the alternative?

Recommendations

1. The oilheating industry in the markets covered is now enjoying a "breather" in its competition with gas-fired heat. Every marketer in every market must move cooperatively through his local association as promptly as possible to:

A. Establish burner installation standards.

B. Study "oilburner service costs."

C. Learn how, in each market, to establish oilburner service on an actuarial basis.

D. Promote public relations.

2. Round Table discussions in each market should be arranged by local associations periodically to study:

A. The progress of different attempts to brand fueloil and the relation of such branding to "automatic heat." Talking this subject out in each market will be constructive to all marketers.

◈

A. F. Rice, manager of western region appliance sales for Rheem Mfg. Co., died in the crash of an airliner near Burbank, Calif. on November 13. Mr. Rice joined Rheem in September, 1945, after serving during the war as a lieutenant colonel of Engineers, attached to the Army Air Forces.

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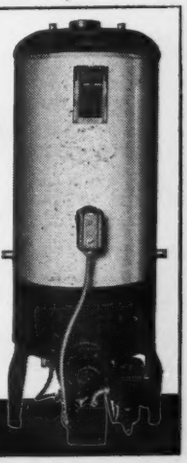

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DEALER SALES MANAGER to develop territory of distributor of oilheating equipment. Able to manage a business successfully and to build up a dealer organization in distributor's territory. Must be qualified to select and franchise the outstanding dealers in the territory and to develop the dealers as to quality of installations and volume of business. Write Box 593.

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